

Green Thumb Newsletter



Number 81-1

January 1981

Classes

As promised at his retirement, Dr. William Gambill, Director Emeritus, will teach a class on *Winter Botany* starting January 7 and continuing each Wednesday through February 11, from 7 to 9 p.m. in the Herbarium. This class will focus on the identification of trees in winter condition. The cost of \$30.00 for members and \$35.00 for non-members will include two books but please bring a 10X hand lens.

Another way to enjoy plants is to view them as art. Sign up for *Botanical Drawing*, January 8 - February 26, 9:30 - 11:30 a.m., Classroom B. The cost of \$35.00 for members and \$40.00 for non-members will cover all material. Remember: "Each plant is known as an individual to the true gardener" (and the true artist).

Another class, also starting on January 8, *Plant Materials in Landscaping* is designed for professionals in the field although advanced amateurs would find it stimulating also. This is to be taught each Thursday evening through February 19 from 7:30 - 9:30 p.m., Classroom C, by Al Rollinger and Larry Watson and costs \$70.00. Limit 50.

The Indoor Light Gardening Series will end on January 10 when the members of the Society will teach *How to Multiply Your Houseplants*. Meet at 9 a.m., Classroom B. The cost of this class is \$10.00 if you are a member of the Gardens; \$12.50 if you are not.

Is it time to think about growing vegetables already? Yes, particularly if you garden in containers. In a two-week class, January 19 and 26, 7 - 9 p.m., in Classroom A, John Brett will discuss the basics of *Container Gardening*. The cost is \$8.00 for members and \$10.00 for non-members.

Maybe you are planning a winter vacation? If so, you certainly will take your camera and lots of film but do you know the best type of equipment to carry, air line regulations, etc.? Sign up for our three week *Travel Photography* class on Mondays, January 19 - February 2, 7:30 - 9:30 p.m., Classroom C and these points and others will be explained.

Finally, the Victorians, with their penchant for self-improvement, urged people to study plants. "Many a one has been saved from alluring temptations that might have been his ruin, by his spare time being taken up with his love of gardening. . . . proving far more attractive than the company of idle companions or the false pleasures of the beershop." *The New Practical Window Gardener* 1877. You can "improve" yourself and your home too with our class in *Interior Plantscaping*. This class on Tuesday evenings from January 20 - February 24, 7 - 9 p.m., Classroom B, will help you beautify your home with foliage plants. Their selection, care and culture will be discussed. The cost is \$24.00 for members, \$30.00 for non-members.



Finally, and this was not shown in the *Winter List of Classes* because we consider it an opportunity for a limited number of members, we are pleased to announce that at last we will start training classes about the outside gardens. Many have requested this chance for service and now with many gardens completed and other projects underway for 1981, we are pleased to honor these requests. The classes will start on January 7 and continue each Wednesday morning 10-12 Noon until February 25, Classroom C and outside as appropriate. Some of the areas to be covered include History of the Denver Botanic Gardens, the Rock Garden and Alpine House, the three rose areas, and the Japanese Garden and tea house. Some of the instructors are Dr. Moras Shubert, a Board member since 1951; Joan Franson, District Director of the American Rose Society and President of the DBG Associates; and Dr. William Gambill, Director Emeritus. This eight-week class will be free to people who have taken our regular guides class; it will cost \$10.00 for others who wish to be included in this new opportunity.

Another class, same months, same days, same room and same fee structure, but taught from 1 - 3 p.m., is an intensive course for the Guides on tropical plants. This too is planned to meet recurring requests for often because of the pressure of time, our basic class has had to slight important and interesting aspects of the Conservatory. Topics in this class will include a Jungle Ecosystem, Allergy and Poison Plants, and Evolutionary Development of Plants, and teachers include Dr. Helen Zeiner, Honorary Curator of the Herbarium; Mrs. Peg Hayward; and Ms. Solange Huggins, the Librarian.

Both classes are offered by the Associates of the Denver Botanic Gardens; both are limited to 25 students. Handouts will be prepared for each lecture so students are urged to bring a three ring notebook.

"To Keep The Promise"

As I write my first "communication to the membership" as Director of the Botanic Gardens there are many thoughts and emotions racing through my mind. I am filled with gratitude for the support and encouragement I received from my wife Patricia, my children, my colleagues at the Gardens, many Board members and a number of you who spoke personally or wrote to me during the three month selection process.

Being chosen to serve in a position previously held by such a legendary figure as Dr. A. C. Hildreth is both a humbling and exhilarating experience. His ability to motivate his staff; his commitment to excellence in establishing the premier Botanic Garden in the Rocky Mountain West; and his inherent love of plants and people are all worthy standards from which I can receive both inspiration and direction.

In accepting the Director's position I have taken responsibility for stewardship of the dramatic accomplishments of Dr. Gambill's ten highly productive years. This is a responsibility I take very seriously. Dr. Gambill has been to me both supervisor and teacher for the past two years. He integrated my responsibilities with his own in a way that has prepared me for the varied duties of the Director. I am indebted to Dr. Gambill for his patience, encouragement, and continually strengthening support.

The challenge now before me, and before you as benefactors of the continuing development of the Botanic Gardens, is to build upon the remarkable accomplishments of the recent "To Fulfill a Promise Campaign." To do this we must develop innovative new educational opportunities utilizing the new gardens and facilities that evolved as a result of that very fruitful fund drive. We must strive to see that the high standards of quality we have come to expect and demand at Denver Botanic Gardens are never compromised. We must work together to "Challenge the 80's."

Working together we have built the finest Botanic Gardens in the Rocky Mountain Region. We are daily providing opportunities to improve the quality of life for those who come to learn, to observe, to find peace in communion with the natural order of green, growing plants. We provide the environment in which plants and people can grow together.

I feel privileged to have been chosen to direct the development of the Gardens as we "Challenge the 80's." With your continuing encouragement, participation and support we can work together to fulfill the new challenge that is now before us — "To Keep The Promise."

Merle M. Moore
Director 1980

Information for All Members

We are all aware that some members have had problems receiving information in time for certain events. Since we do use bulk mail and cannot promise prompt delivery, we have prepared the enclosed *Calendar of Special Events* for 1981. Mark these dates down now and you won't be left out! We will, of course, remind you in the *Newsletter* as the date draws near and will include other events as we learn of them.

Tributes

In memory of Mrs. Elmer D. Bates
Ruth Hawkins

In memory of Ruth Cheley
Mrs. J. C. Rheem

In memory of Harriet Clumpus
Mr. John Cornish
Miss Pamela Maddox

In memory of F. Ross Porter
Mrs. Margaret G. Altvater

In memory of Earl Sinnamon
Dr. & Mrs. W. C. Jackson, Jr.

In memory of Dorothy Wells
Margie Anna
Elaine Bell
Barbara Campbell
Ellen Harvey
Ted McCoy

In memory of W. W. "Bill" Wheeler
Newell M. Grant

In memory of Frank L. and Jessie Lee Yale
Otto Eastland, Jr.

Donations have been received from the following friends:

Alice M. Chadderton
Applewood Knolls Garden Club
Mrs. Melba Hamblen — iris for the outside garden
Hampden Heights Garden Club
Margaret L. King — for "The Touching Place"
KWBZ Radio
Union Pacific Corporation

A Lasting Difference

The response to Challenge the 80s Annual Appeal, the first in the history of the Denver Botanic Gardens, was most encouraging.

Your annual support, beyond your membership fee, is vital as we continue our high standard of botanical excellence in spite of decreasing support from the City.

The Gardens are grateful for the contributions from its members and friends. Your annual gift "makes a lasting difference", THANK YOU!

We urge everyone who has not already done so to consider a gift at this time. We also thank those who chose not to give for their consideration.

Botany Club

January 16, 7:30 p.m.

Classroom C

Mr. Al Moye will speak and show slides on the topic "How I Got Started On Wildflowers." Free and all welcome.

Gardening Tips for January

January is hardly the month to think about gardening but perhaps it's a good time to talk about the subject of old wives' tales since almost every aspect of living, even gardening, is influenced by them. One that immediately comes to mind that has been perpetrated down through the years, not just over the backyard fence, but sometimes in even scientific literature, is the notion that sap goes down in the trees in the fall and comes back up in spring.

This wives' tale probably came about by the observation that in the very early spring, certain kinds of trees begin to ooze a syrupy liquid. Anyone living in Vermont or other northeastern state is well acquainted with tapping of sugar maple trees for their sugar-containing sap. Unfortunately, what we observe from the outside is only from our perspective and not from what is actually occurring inside the tree. It is somewhat like the commonly-used statement that the sun rises from the east. It does so only from our perspective but not in actuality.

What actually happens with sap in trees in the fall of the year is that it changes chemically into what is basically stored food, some of which goes to the roots, but a high percentage stays right where it is. These chemical changes also enable the cells of the tree to survive the cold winter without undergoing a freeze injury. In the spring of the year, as the soil warms, there is a chemical change that reverses the process and stored food, mostly starches, converts back to sugars. In the process of this chemical change, a pressure is developed within the plant, resulting in an oozing from wounds, or the so-called "bleeding". It is not, however, the result of a rising of sap from the roots.

Another old wives' tale perpetuated by many is that droplets of water on a plant will be magnified by the rays of the sun and will cause burning of the foliage. This has been scientifically proven to be false but scientific proof should not be necessary when logic tells us that if the sun's rays magnify the droplet of water, the water would have boiled away long before, making it impossible to have burned the foliage. Anyone who has used a magnifying glass will also know that the lens has to be held a given distance away from an object before the rays are concentrated enough to cause a burn. A droplet of water is in intimate contact with the leaf and if anything, the droplet would concentrate the rays at a point some distance below the leaf.

Along the same line is a common belief that sun reflecting off snow can burn the foliage of an evergreen. While there is so-called "reflection burn", it is not a true burn in the sense that the sun develops enough heat to actually burn the foliage. What actually happens is that the foliage dries up or desiccates. It is usually a combination of bright sun activating some of the cells of the evergreen foliage and a cold, drying wind that saps the water out of the plant.

An unfortunate term used in common, everyday horticulture language is "sunscald". Sunscald is a condition that occurs primarily during the months of January, February and March. It is not a scald from the sun but much like sunburn from snow reflection, it is a desiccation of some of the cells of the bark of a tree; usually on the southwest side. In spite of its name, sunscald is actually a

freeze injury caused when the sun warms the southwest side of a tree and causes metabolic activity in those cells, then a sudden temperature drop results in the freezing of the cells.

This leads to another old wives' tale that freeze injury is the result of bursting of the plant's cells. It has been found true from careful studies that when cells of a plant begin to freeze, water may be drawn out of the cells, forming ice crystals between the cells. Contrary to common belief, however, ice crystals do not rupture the plant's cells, but rather, the freezing process causes dehydration. In a sense, freeze injury, winter sunburn and sunscald are all dehydration processes. The names given to these phenomena have resulted in misleading deductions as to what causes them.

There are many other old wives' tales in gardening literature such as the thick skin of an onion indicating we're in for a hard winter, when in fact, it is more the result of a lack of sufficient moisture at the end of the growing season. That sweetpeas should be planted on St. Patrick's Day should only serve as a reminder that they must be planted early. A few days one way or the other will make no difference as far as being successful is concerned. These, along with the old wives' tale that certain vegetables should be planted in certain phases of the moon, are really the result of human logic applied to a natural phenomenon.

—Dr. J. R. Feucht

Welcome, New Members

Rick Agan	Jon R. Knauss
Mr. & Mrs. Andrew Anderson III	Mr. & Mrs. Kenneth L. Lane
Mr. & Mrs. Richard G. Akeroyd, Jr.	Susan Lechman
Mr. & Mrs. Richard P. Barry	Lolita J. Lindstrom
Dennis Bates	Ann M. McCarty & Family
Mr. & Mrs. Paul J. Bennett	Mr. & Mrs. Robert S. McCoy, Jr.
Nancy R. Berge	Paul A. McElwain
Mr. & Mrs. Charles W. Berry	Gail Manning
Sue Bicknell	Joyce D. Marx
Sister Mary Borgia	Mildred Mylander
Mr. & Mrs. Walter Brittain	Mrs. Brett Osborne
Jeanine M. Brown	Dr. Roy H. Ott, Jr.
Mr. & Mrs. C. A. Carlson	Anthony G. Pavlovich, Jr.
Colorado Cactus & Succulent Society	Nick M. Pizzuti, Jr.
Mr. & Mrs. W. C. Cryer	Mr. & Mrs. Richard K. Pohl
Bernadine Deutsch	Jeanne Portnoy
Mrs. Betty J. Dohn	Pruett Publishing Company
Barbara Ferguson	Miki Gartz Reddy
Bruce T. Fields	Mr. & Mrs. David Ruiter
Kenneth D. Fitch, DVM	Lynne Scholfield
Mary Foote	Carrie Seely
W. W. Frauman III	Mrs. Joseph G. Shriver
Dr. Marshall A. Freedman	Laurie Simms
Susan Greenberg	Stanley L. Sorenson & Family
Mrs. W. W. Harris	Roger G. Starr
Peter Hartlove	S. D. Stephens
Gordon & Ellen Heeren	Victor H. & Sandra J. Stollery
Jetta Hines	Helen Swanson
Mr. & Mrs. Rolland W. Hoops	Mr. & Mrs. R. L. Swenson
Loretta K. Hoven	Geri Thompson
Robert M. Hudspeth	Maureen Treston
Theresa A. Jelliffe & Family	Felicia S. Wadell
Ila M. Ketter	Jan West
Helen E. King	Mrs. David I. Williams
	Sandra Wyngaard

Let's continue to build our membership! Invite a friend to join or give a gift membership.

Calendar of Events



January 1981

1)	All Day		"HAPPY NEW YEAR!" (Gardens Closed)
3)	9:30 a.m.	Education Building — Classroom B	Gloxinia Gesneriad Growers
6)*	1:00 p.m.	Denver Botanic Gardens House — Dining Room	Editorial Committee Meeting
7)*	9:00 a.m.	Education Building — Classroom C	Outdoor Guiding Class
7)*	12:00 noon	Denver Botanic Gardens House — Dining Room	Membership Committee Meeting
7)*	1:00 p.m.	Education Building — Classroom C	Conservatory Guides Class
7)*	4:00 p.m.	Denver Botanic Gardens House — Dining Room	Planning Committee Meeting
8)*	9:30 a.m.	Education Building — Classroom B (This class continues on Thursdays through February 26)	"Botanical Drawing" — Mrs. Angela Overy
8)*	9:30 a.m.	Denver Botanic Gardens House — Main, Dining Rooms	Central District Presidents Council
8)*	7:30 p.m.	Education Building — Classroom C (This class continues on Thursdays through February 19)	"Plants Materials in Landscaping" — Alan Rollinger, Larry Watson
8)*	7:45 p.m.	Education Building — Mitchell Hall	Denver Orchid Society
10)*	9:00 a.m.	Education Building — Classroom B	"How to Multiply Your House Plants" — Members of Indoor Light Gardening Society
13)*	9:30 a.m.	Education Building — Classroom C	Gardeners Workshop for Staff
13)*	12:00 noon	Education Building — Herbarium	Herbarium Committee Meeting
13)*	1:00 p.m.	Denver Botanic Gardens House — Main Room	Colorado Women's Conservation Club
13)*	4:00 p.m.	Denver Botanic Gardens House — Dining Room	Executive Committee Meeting
14)*	9:00 a.m.	Education Building — Classroom C	Outdoor Guiding Class
14)*	12:00 noon	Denver Botanic Gardens House — Main Room	P. R. & Development Committee Meeting
14)*	12:00 noon	Denver Botanic Gardens House — Dining Room	Colorado Garden Show, Inc.
14)*	1:00 p.m.	Education Building — Classroom C	Conservatory Plant Guides Class
14)*	3:30 p.m.	Denver Botanic Gardens House — Dining Room	Horticulture Advisory Sub-Committee for Chatfield Arboretum
15)*	4:00 p.m.	Denver Botanic Gardens House — Dining Room	Chatfield Committee Meeting
15)	7:30 p.m.	Education Building — Classroom B	Indoor Light Gardening Society
16)*	9:30 a.m.	Education Building — Classroom B	Potpourri Workshop
16)	7:30 p.m.	Education Building — Classroom C	Denver Botany Club
17)	1:30 p.m.	Education Building — Mitchell Hall	"New Zealand Flora and Other Surprises" — Mr. Lucian Long
17)*	9:00 a.m.	Education Building — Classroom B	Hi Country Judges Workshop
19)*	7:00 p.m.	Education Building — Classroom A (This class will conclude on January 26)	"Container Vegetable Gardening" — John Brett
19)*	7:30 p.m.	Education Building — Classroom C (This class continues on Mondays through February 2)	"Travel Photography" — Mr. Richard Hodges
20)*	9:30 a.m.	Education Building — Classroom B	Gardeners Workshop for Staff
20)*	12:30 p.m.	Denver Botanic Gardens House — Main Room	Rocky Mt. African Violet Council
20)*	2:00 p.m.	Education Building — Classroom B	Education Committee Meeting
20)*	7:00 p.m.	Education Building — Classroom B (This class continues on Tuesdays through February 24)	"Interior Plantscaping" — Marsha Celesta
21)*	9:00 a.m.	Education Building — Classroom C	Outdoor Guiding Class
21)*	1:00 p.m.	Education Building — Classroom C	Conservatory Plant Guides Class
21)	7:30 p.m.	Education Building — Classroom B	American Rock Garden Society

CALENDAR OF EVENTS FOR JANUARY (continued)

22)*	9:00 a.m.	Education Building — Classroom C (This class continues on Thursdays through March 26)	Master Gardeners Class — Dr. James Feucht
22)*	9:30 a.m.	Education Building — Classroom A	African Violet Society of Denver
22)*	10:00 a.m.	Denver Botanic Gardens House — Main Room	Around the Seasons Club
22)*	3:00 p.m.	Denver Botanic Gardens House — Dining Room	Horticulture Advisory Committee Meeting
22)*	7:30 p.m.	Denver Botanic Gardens House — Main Room	Men's Garden Club of Denver
23)*	9:00 a.m.	Education Building — Mitchell Hall	Ikebana International
26)*	9:30 a.m.	Denver Botanic Gardens House — Main Room	Ultra Violet Club
27)*	9:30 a.m.	Education Building — Classroom C	Gardeners Workshop for Staff
27)*	12:00 noon	Education Building — Herbarium	Herbarium Committee Meeting
27)*	4:00 p.m.	Denver Botanic Gardens House — Main Room	Board of Trustees Meeting
27)	7:30 p.m.	Education Building — Classroom C	Colorado Gladiolus Society
28)*	9:00 a.m.	Education Building — Classroom C	Outdoor Guiding Class
28)*	1:00 p.m.	Education Building — Classroom C	Conservatory Plant Guides Class
29)*	3:00 p.m.	Denver Botanic Gardens House — Dining Room	Education Committee Meeting

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3)*	9:30 a.m.	Education Building — Classroom C	Gardeners Workshop for Staff
3)*	1:00 p.m.	Denver Botanic Gardens House — Dining Room	Editorial Committee Meeting
4)*	9:00 a.m.	Education Building — Classroom C	Outdoor Guiding Class
4)*	1:00 p.m.	Education Building — Classroom C	Conservatory Plant Guides Class
4)*	4:00 p.m.	Denver Botanic Gardens House — Dining Room	Planning Committee Meeting
5)*	8:00 a.m.	Education Building — Classroom A	Parks & Rec. Dept. Supervisors Meeting
5)*	7:45 p.m.	Education Building — Mitchell Hall	Denver Orchid Society
6)*	11:00 a.m.	D.B.G. House — Main, Dining Rooms	Civic Garden Club
7)	9:30 a.m.	Education Building — Classroom B	Gloxinia Gesneriad Growers

*Members or Enrollees Only

Start the New Year Right!

On January 17 a free lecture will feature Lu Long talking on "New Zealand Flora and Other Surprises." Many of our members know Lu for his fine presentations with dual projectors and screens, enhanced sound and of course beautiful pictures. This show is based on the trip the Gardens took to New Zealand last year so promises lovely flowers and magnificent scenery. One aspect of the lecture will be the evolution and development of plants in the Antipodes. The time is 1:30 p.m. in John C. Mitchell Hall. Bring your friends.

Great Display!

Did you know that the leaves of *Ficus pseudopalma* are edible? Are the *Ficus lyrata* leaves really fiddle shaped? Can you name other members of the Mulberry family? All these facts and others are creatively displayed on the balcony overlooking the Conservatory. Thanks are due to Heidi Fine and Larry Latta for this fine exhibit.

Twenty-second Garden & Home Show

"Colorado — a Treasure Chest of Natural Beauty" is the theme of this year's Garden and Home Show to be held in Currigan Hall from January 30 - February 8.

For further information as to hours and admission fees please call Industrial Expositions, 458-5615.

Congratulations are due

. . . to Dr. Mildred Mathias, who was awarded horticulture's most prestigious award, the Liberty Hyde Bailey Medal, at the recent American Horticulture Society meeting in St. Louis. Our members will remember meeting Dr. Mathias at the American Association of Botanical Gardens and Arboretas convention in Denver in July 1979.

And speaking of A.H.S., the Denver Botanic Gardens will be its host July 14-18 when the organization will journey to Denver. For further information please write Dorothy Sowerby, Tour Coordinator, American Horticulture Society, Mt. Vernon, VA 22121.



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$15.00 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 10th of each month preceding publication. Editor — Margaret Sikes, 575-2547.



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January 1981

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Around and About The Gardens

When winter approaches, gardeners tend to hibernate, mulling over seed catalogues and impatiently waiting for spring. Gardeners! Winter is not that forbidding. Bundle up; wear your moon boots and ski caps and come out to inspect what a January day has to offer. Look for yourself for the structure and patterns that are no longer camouflaged by foliage or boldness of flowers: the straight, rigid stems of Arrowwood Viburnum (*Viburnum dentatum*), the pendulous, whip-like branches of the Cutleaf European White Birch (*Betula pendula* 'Gracilis'), and the twisted stems of Contorted Filbert (*Corylus avellana* 'Contorta').

In addition to form, colorful bark and berries are the winter mainstays in this area. The Redtwig (*Cornus stolonifera*) and Yellowtwig Dogwoods (*Cornus stolonifera* 'Flaviramea') head the list for outstanding winter color. On a bright, sunny day, carpeted by snow, these colorful stems make a radiant display. Scots Pine (*Pinus sylvestris*) becomes more beautiful each year; its reddish bark, more enhanced on clear, crisp days, is visible through evergreen needles. From the sublime to the subtleties of peeling, silkened bark, the various species of Birch (*Betula*) come to mind.

Shifting our focus from bark to berries — Washington Hawthorn (*Crataegus phaenopyrum*) with its multiple, glossy red fruit offers more pomp now than when it is in flower. Its counterpart, Winter King Hawthorn (*Crataegus viridis* 'Winter King') brings forth a different display. With a less twiggy, more open form, it boasts larger, dull red fruits against silver-gray bark. Diels Barberry (*Berberis dielsiana*) loosely dangles its brick red fruit on fine threads while white berries of Snowberry (*Symphoricarpos albus*) assemble in tight clusters. And the Staghorn Sumac (*Rhus typhina*) manifests bold stems tipped with pyramidal clusters of crimson drupes.



All is not red or white; the rambling vine of Virginia Creeper (*Parthenocissus quinquefolia*) has a wealth of blue-black berries that may persist through February.

What else might lure you outdoors: perhaps the glistening layer of snow; clumps of grass emerging through a white carpet; frost fringed leaves or icy silhouettes.

Close your catalogues for now . . .

Gayle Weinstein
Botanist-Horticulturist

LIBRARY LINES

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A BIMONTHLY NEWSLETTER OF THE HELEN FOWLER LIBRARY OF DENVER BOTANIC GARDENS

Sinnes, A. Cort. *ALL ABOUT FERTILIZERS, SOILS AND WATER*. San Francisco, Ortho Books, 1975. \$4.95. SB 453 S5663.

This is an excellent, well-illustrated book with great practical value for the average gardener. The first consideration has to do with the basic requirements of plants: air, water, nutrients and a suitable environment. Various kinds of soils and their conditioning are analyzed. This is followed by a section on fertilizers, the needs of plants for essential nutrients and their water requirements.

Claude Hansen

North, Marianne. *A VISION OF EDEN*. New York, Holt, Rinehart & Winston, 1980. \$22.95. QK 31 N675 A372.

This is the record, written and graphic, of the life and travels of the English woman Marianne North. Her very considerable energies were used in traveling the world over in search of plants which she recorded as oil paintings. So important were her efforts that several plant species and one genus are named after her.

In addition to her paintings, she has also left behind a fascinating autobiography.

C.H.

Harrison, J.A.C. *THE D-I-Y GUIDE TO NATURAL STONEWORK*. North Pomfret, Vt., David and Charles, 1979. \$16.95. TH 1201H2885.

"D-I-Y" in the title of this book stands for Do-it-yourself. That is just what this book tells you, showing with clearly written directions how to proceed with various types of stone-laying projects.

The book begins with a discussion of necessary tools and equipment and is then concerned with wall construction, flagstone pathways, patios and more difficult projects such as arches. It is well illustrated with numerous diagrams and photographs.

C.H.

Wagner, Frederic H. *WILDLIFE OF THE DESERTS*. New York, Harry N. Abrams, 1980. \$18.95. QH 88 W3455.

While this book is concerned mostly with the zoology of the desert areas of the world, it also contains botanical and geological information. Its lavish illustrations, both drawings and color photographs, give a comprehensive picture of the natural history of deserts. This is a really beautiful book.

C.H.

Rahn, James J. *MAKING THE WEATHER WORK FOR YOU: A PRACTICAL GUIDE FOR GARDENER AND FARMER*. Charlotte, Vt., Garden Way, 1979. \$7.95. QC 981.2 R355.

The old cliché, "Everybody talks about the weather but nobody does anything about it," is not quite as true as it once was. While large scale control is still out of reach, Mr. Rahn is of the belief that a great deal can be done on the local scene (microclimate) to modify the effects of weather and to make it work for you.

Mr. Rahn has the rare skill of presenting technical material in a format that is readily understood by the lay person without compromising important information. All facets of weather and weather/plant interactions are discussed.

Beginning the book is a chapter on how to and the importance of collecting one's own weather information. Following are chapters detailing how one can use local and regional weather information to control and to adapt to the various weather conditions in one's own area. As is the case with most Garden Way publications, this book is loaded with fascinating, informative illustrations. A rich bibliography makes it possible to increase one's knowledge in this subject.

John Brett

Harrison, Sarah and Mike Wicks. *IN GRANNY'S GARDEN*. New York, Holt, Rinehart & Winston, 1980. \$6.95. j PZ 8.3 H2435.

In Granny's Garden is a wonderful book filled with magic and illusion, charm and enchantment. The poem is to be read and re-read. The words move and sway and soothe as they present the story of a young wide-eyed boy who encounters, among other critters, a brontosaurus in his grandmother's garden. The illustrations warmly invite the reader into a fantasy world with wonderful drawings of flora and fauna. Each viewing of the pictures reveals something new: sunshafts, reflections, cranes flying through a starlit sky, even a silhouette of granny standing by a window looking out of the big old house. *In Granny's Garden* is a book that will appeal to all ages, one which will stimulate a curious mind and provide many moments of intrigue.

Susan Praetz

Daddona, Mark. *HOE, HOE, HOE, WATCH MY GARDEN GROW*. Reading, Mass., Addison-Wesley, 1980. \$7.95. j SB 324 D23.

This book is basically a guide for the young gardener who perhaps has never grown a vegetable garden before. The author presents in easy, straight-forward text and simple illustrations such topics as where to locate the garden, how to prepare the soil, information on fertilizing, planting, weeding and harvesting. It would be a good book to read during the cold winter months as one dreams of spring and plans a vegetable garden of his own. Good advice is offered.

S.P.

Kramer, Jack. *GARDENING IN SMALL SPACES*. Tucson, Ariz., H.P. Books, 1979. \$7.95. SB 454 K73.

Another in the long list of Jack Kramer's books about gardening, this volume deals with gardens on patios, balconies, rooftops and other places where space is at a premium. Especially worthwhile is a series of construction plans for space-saving gardens. Also included is a list of plants which adapt well to the small garden.

Mary Bailey

Nelson, Kennard S. *GREENHOUSE MANAGEMENT FOR FLOWER AND PLANT PRODUCTION*. Danville, Ill., Interstate, 1980. \$14.60. SB 415 N468.

Dr. Nelson has written textbooks for the floriculture industry for many years. This volume is an overview of business and crop production procedures for the greenhouse manager. Although this is an updated edition, it is not as complete or current as it might have been. For example, discussions of such topics as insulation to prevent heat loss in greenhouses and the important bedding plant industry have been omitted. The book is useful only as a superficial introduction to greenhouse management.

M.B.

Freitus, Joe. *THE NATURAL WORLD COOKBOOK*. Washington, D. C., Stone Wall Press, 1980. \$15.00. TX 823 F755.

The Natural World Cookbook is an attractive and interesting book which will certainly have greater value for the naturalist than for the cook. Dandelions, acorns, thistle and squirrel meat are probably not staples in the average kitchen and one of the book's most enjoyable aspects is in learning that anything can be cooked with these things. The recipes are as simple as possible; a typical one consists of boiling flowers to which salt and butter are added. The pleasure is in identi-

fying the flower as well as cooking it. The left hand side of a page shows a line drawing of the plant below which is a description. The right hand page has the recipes which are clearly presented.

Walter Hanstein II

Galston, Arther W., Peter J. Davis and Ruth L. Satter. *THE LIFE OF THE GREEN PLANT*, 3rd ed. Englewood Cliffs, N.J., Prentice-Hall, 1980. \$11.95. QK 911.2 G357.

If your curiosity impels you to ask why plants do what they do, this may be the book you want to read. It was written to be used as a textbook in functional botany and thus uses the language of the plant scientist.

Included with the discussions of the life processes of the plant is some information about the research procedures used to determine these processes. Each chapter concludes with a summary, a list of selected readings for further study and a set of questions which should be valuable aids for the serious student of botany.

The authors suggest that the book may also be "read by non-specialists who want to gain an appreciation of the functioning of the green organisms around them." Relevant topics included are the physiology of stress in plants, plant protection against insects, the role of physiology in agricultural and horticultural practices, and a discussion of some wild plants with potentially economic values.

Velma Richards

Gilbertie, Sal and Larry Sheehan. *HERB GARDENING AT ITS BEST*. New York, Atheneum, 1978. \$12.95. SB 351 H5 G5648.

If you're one of those folks who are caught up in the trend toward greater self-sufficiency rather than an ever growing dependence on supermarkets and large corporations, then you may want to put this one on your book list.

The authors approach the subject from the beginner's viewpoint explaining how to grow herbs for culinary and/or medicinal purposes or for fragrance alone. The reader is taken step-by-step from seed to harvest to storage with an emphasis on organic growing techniques.

A highlight of the book comes in Part III which is a guide to herb garden designs for special purposes. Plans are given for a tea garden, a medicinal garden, an aphrodisiac garden to name just a few. This is an excellent, versatile primer.

David Savory

Green Thumb Newsletter



Number 81-2

February 1981



Annual Membership Dinner

The Annual Membership Dinner is planned for February 24 in John C. Mitchell Hall. First is the reception, followed by dinner and then our featured speaker, Koichi Kawana. Currently Professor Kawana is Principal Architectural Associate and Lecturer in Japanese architecture, art and landscape design at the University of California, Los Angeles. An accomplished painter, over thirty of his paintings will be on display in the Hall the night of the dinner, and on the 25th and 26th of February, the paintings may be viewed by the general public from 9 to 4:45 p.m. in the Hall.

Professor Kawana, who designed the 14-acre Japanese Garden, Seiwa-en, at the Missouri Botanical Garden and is currently working on Sansho-en for the Chicago Horticultural Society, will compare these gardens with his creation, Shofu-en, at the Denver Botanic Gardens.

Botanic Gardens Awarded \$35,000

Merle M. Moore, Director of Denver Botanic Gardens is pleased to announce the awarding of a \$35,000 general operating support grant by The Institute of Museum Services, an agency of the U.S. Department of Education. Lee Kimche, Director of I.M.S., explains "the purpose of this federal agency is to make grants to museums of all types to help pay for education, conservation, security, exhibitions, outreach and other programs that provide services to the public." The Botanic Gardens was one of 405 museums selected for grants this year out of a total of 1,500 applicants.

The I.M.S. grant funds will be used to support critical staffing needs not being met as a result of the reduced City/County allocation to the 1981 operating budget for the Botanic Gardens.

The Director's 1981 Invited Lecture Series

During the course of the year, through his contact with arboreta, botanic gardens, professional horticultural societies and organizations throughout the U.S. and the international horticultural community, the Director of the Botanic Gardens has a unique opportunity to identify and invite to Denver knowledgeable and notable speakers on horticultural/botanical subjects. Some "seed money" has been included in the 1981 Education Department Operating Budget to permit inauguration of the lecture series on a trial basis. A measure of members' response and enthusiasm for the program will be the attendance at the lectures and willingness to financially support it by contributing a modest fee for each lecture in the series. If your response in 1981 warrants continuation of the lecture series program it will become a permanent aspect of the overall education program at Denver Botanic Gardens.

The first lecture in the 1981 series is scheduled for Wednesday evening, February 11, at Botanic Gardens House, 909 York Street. The House will be open at 7:30 p.m. with the program beginning promptly at 8 p.m. An exhibit of books from our Library pertinent to the subject matter will be on display in the dining room of DBG House the night of the lecture.

We are pleased to announce the first lecturer in the 1981 series will be Dr. Richard Hildreth, Director of the State Arboretum of Utah in Salt Lake City. He will present an illustrated program entitled "*New Landscape Plants — Their Origin and Development*". Particular emphasis will be given to the introduction into landscape use of exotic and native trees, shrubs, groundcovers and vines. Dr. Hildreth's presentation will cover programs for the evaluation and introduction of new plant materials such as those carried out at the Cheyenne Horticultural Field Station, Saratoga Horticultural Foundation, U.S. National Arboretum and arboreta and botanic gardens in general. Nursery origins of many plants will also be stressed. Dr. Hildreth's talk will emphasize the practical aspects of satisfying a human desire for new plants and the improvement of existing plants. His presentation will be of considerable interest to all who seek new, adaptable and reliable ornamental plants for their home gardens and landscaping. We hope you will join us at Botanic Gardens House, Wednesday evening, February 11, for this interesting and informative program. A contribution of \$2.00 per person may be paid in advance or at the door the evening of the lecture. Reservations for the program must be made in advance by letter or phone (575-2547) no later than 12:00 noon on February 11th as seating is limited.

A second lecture in the 1981 series is in the planning stages for mid May 1981 when Allen Paterson, Director of the Chelsea Physic Garden in London, England, (established in 1673), will be in Denver. A dinner/lecture format is being considered for this presentation.

Botany Club

The February Botany Club meeting will feature Dr. William Gambill, Director Emeritus speaking on "An American Botanist's First Trip to New Zealand." Join us on Feb. 20th at 7:30 P.M. Classroom C for this interesting presentation.



"Delight comes from plants and springs and gardens and gentle winds and flowers and the song of birds." Libanios 314 - c393 A.D.

The wind may not be gentle but choose your day carefully and come walk around the outside garden. Be sure to notice the statute of Boy with a Frog in the herb garden. This was given to the Denver Botanic Gardens by Louisa Ward Arps in memory of the sculptor, her aunt, Elsie Ward Hering. Much more detailed information on Mrs. Hering's life and work may be found in *The Green Thumb*, July/August 1966.

Indoors too is worth a visit, especially the Boettcher Memorial Conservatory.

"Who loves a garden loves a green-house too.
Unconscious of a less propitious clime,
There blooms exotic beauty, warm and snug,
While the winds whistle and snows descend."

The Task, William Cowper

Gardening Tips for February

Hopefully this February will supply us with more moisture than we've had through the fall and early winter. It's going to take a considerable amount to replenish the deficiencies in water supplies in both the top and subsoils. If dry weather continues, you would be well advised to deep water your trees and shrubs. Don't worry about stimulating growth. If anything, a plant under drought stress will tend to break bud earlier than one that has adequate moisture. Damages caused by freeze injury on a few buds will not have the long-range effects that damage to dry roots would have.

In spite of the bleak outlook for water, there are some brighter sides of gardening. Looking at the new All America Selections and award winners for 1981, there are some exciting new plants to brighten the garden. For the

first time in its forty-nine-year history, All America has awarded a bronze medal to an impatiens. This is a new, orange-scarlet hybrid called 'Blitz'. This has proven to be the best large-flowered, scarlet variety in trials across the United States and Canada. Impatiens have been known for their poor ability to thrive in our bright, hot sun. 'Blitz' is supposed to take quite a bit of sun but would probably perform better in partial shade.



If you're looking for something to take those hot, dry spots, another new All America winner is the dwarf celosia, 'Apricot Brandy'. Most of the plummy type celosias that have appeared on the market for the past few years have been scarlet, orange or gold. To some, these colors have been garish. 'Apricot Brandy' is a much more mellow color and can be used in plantings with many of the red, yellows and oranges.



For those who are growing vegetables, you might want to try the new hybrid yellow sweet pepper 'Gypsy'. There is no need to isolate this plant to the vegetable garden because it is decorative enough to use right in the flower border. Give it a place where it gets plenty of sun, stays relatively dry, perhaps even mixing it with the 'Apricot Brandy' celosia, and you'll have quite a showy planting of flowers. The nicest thing about 'Gypsy' is that it produces sweet peppers much earlier than the common bell-type. This is something Coloradans have needed for a long time. Fruits average three to four inches in length and can be produced within fifty-five days if started from transplants. It is possible to have production of twelve or more peppers per plant.

If you choose not to harvest all of them for your salad, let a few of the fruits ripen on the plant. They will turn orange-red and be decorative or they can still be eaten, gaining extra sweetness.

Dr. J. R. Feucht



Welcome, New Members

Fredric C. Arnold
Lavonne Axford
Mrs. Margaret Baird
Mrs. Elizabeth Barnett
Herb Bartlett
Dr. Gerald Battersby & Family
Dr. & Mrs. Frederick C. Battaglia
Gordon Beezley
Margaret Bischof
Julia A. Blue
Mr. & Mrs. Roger S. Boott
Willard G. Bowen
Shirley M. Boyd
Jeff Brigham
Wayne G. Briggs
Steve Bush
Mrs. William C. Campbell
Mrs. Shirley Christopher
Clyde & Elizabeth Cody
Dukes C. Collister
John L. Collister
Mrs. Phyllis H. Corchary
Mrs. Christine Cusic
Jessie V. Davidson
Mrs. Louis Davis
Miss Brooke Delany
Mr. & Mrs. J. B. Dennie
Denver Wholesale Florists Co.
Mrs. Alfred Dietsch
Susan M. Dill
Betty B. Dobbins
M. Carole Dover & Family
The Glenn Dow Family
Mrs. Carolyn Dowd
Robert O. Endres
Grace L. Evans
Dorothy Falkenberg
Mrs. Mary Fisher
Darrel Freeland
H. Allan Fulton
Mr. & Mrs. Frederick E. Furns
Joan Gale
Tommie G. Geer
Don Glasgow
Mr. & Mrs. Kirby Gray
Gary Groff
Dr. H. L. Guard & Family

Fred O. Guirand & Family
Mr. & Mrs. Raymond A. Gulley
Donna J. Hammel
Fred Harris & Family
Julie Harrison
F. Hendricks
Jo Etta Heiney
Richard Hentzell
Mark J. Hess
Mrs. Friede Hieke
Jerry P. Hill
Mrs. O. R. Hille
Grace Hogue
Dorothy Irwin
The Dann Jurgens Family
Ken Kadotani
Rebecca Kast
Jean W. Kellogg
Patricia Kilmer-Cramer
Dr. Elizabeth Kincannon
Frank J. Klejwa
Lucille E. Knoch
Cynthia D. Lambert
William Larson
Mrs. Julie Lapin
Dr. Elva Lawton
Mr. & Mrs. John M. LeVar
Harry Lordino
Marcella H. McMillin
Vernon L. Mack
Blythe Mackey
Mr. & Mrs. George W. Mahoney
Nancy A. Martin
Mrs. Roy T. Mast
Stephen L. Michel
Gale T. Miller
Anne Mitchell
May Mitsuda
Mrs. Helen E. Moriarity
Patricia Nordin
Kathleen M. O'Malley
Ethel S. Parker
Geraldine Pate
Mr. & Mrs. Timothy Patrick
Mr. & Mrs. George W. Peckham
Keith Pegorsch
Paul D. Phillips & Family

Janet B. Pierce
Mrs. William L. Porter
Phillip & Kristine Pratt
Charles & Mary Purdy
Mr. & Mrs. Frank Pyrzynski
Michael Quataert
Dr. & Mrs. George Richardson
Mrs. Laurence Rickards
Mr. & Mrs. Irving Ringler
Carl W. Roberts & Lynn Schultz-Roberts
Marjorie Robinson
Leone E. Rowe
Mrs. Marlin Sacry
Mr. & Mrs. Theodore G. Saydyk
Miss Elizabeth Schlickbernd
M. Joyce Selbie
Kathryn Seydel
Mr. & Mrs. John Shannon
Karen Sheahan
Chris Shumate
Elizabeth Singer
Dorothy G. Smith
Bill Sorensen
Donna Stanley-Haberkorn
Mr. & Mrs. Caleb Steinberg
Mr. & Mrs. Jack Steinmeyer
Bonnie St. Onge
William G. Stitt, Jr.
Jeanne Sullivan
Wesley TeWinkle & Family
Mrs. Jane Thwaites
A. D. Timonier
Marda Tracy
Judith Vannocker
Mr. & Mrs. T. J. Vogenthaler
Karen Voll
Miss Frieda Vonderwahl
Greg Wendholt & Family
Mr. & Mrs. James T. Whitaker
Scott Whitney
Pat Whiteside
Lois Wickstrom
Mrs. Fleeta Brownell Woodroffe
Jinko Yamaguchi & Family
Mr. & Mrs. Albin Zak, Jr.
Lois Zeis

Let's continue to build our membership! Invite a friend to join or give a gift membership.



Calendar of Events



February 1981

- | | | |
|-------|------------|------------------------------------|
| 2) * | 7:00 p.m. | Education Building — Classroom C |
| 4) | 9:00 a.m. | Education Building — Classroom C |
| 4) | 1:00 p.m. | Education Building — Classroom C |
| 4) * | 4:00 p.m. | D.B.G. House — Dining Room |
| 4) * | 7:00 p.m. | Education Building — Herbarium |
| 5) * | 8:00 a.m. | Education Building — Classroom A |
| 5) * | 9:00 a.m. | Education Building — Classroom C |
| 5) * | 9:30 a.m. | Education Building — Classroom B |
| 5) * | 3:30 p.m. | D.B.G. House — Dining Room |
| 5) * | 7:30 p.m. | Education Building — Classroom C |
| | | |
| 5) | 7:45 p.m. | Education Building — Mitchell Hall |
| 6) | 11:00 a.m. | D.B.G. House — Main Room |
| 7) | 9:30 a.m. | Education Building — Classroom B |
| 7) | 11:00 a.m. | D.B.G. House — Main Room |
| | | |
| 9) * | 7:00 p.m. | Education Building — Classroom A |
| 9) | 7:30 p.m. | Education Building — Mitchell Hall |
| 10) * | 12:00 noon | Education Building — Herbarium |
| 10) * | 1:00 p.m. | D.B.G. House — Main Room |
| 10) * | 4:00 p.m. | D.B.G. House — Dining Room |
| 10) * | 7:30 p.m. | Education Building — Classroom A |
| 11) | 9:00 a.m. | Education Building — Classroom C |
| 11) * | 9:30 a.m. | D.B.G. House — Main Room |
| 11) * | 12:00 noon | D.B.G. House — Dining Room |
| 11) | 1:00 p.m. | Education Building — Classroom C |
| 11) * | 3:30 p.m. | D.B.G. House — Dining Room |
| 11) * | 7:00 p.m. | Education Building — Herbarium |
| 11) | 8:00 p.m. | D.B.G. House — Main Room |
| 12) * | 9:00 a.m. | Education Building — Classroom C |
| 12) * | 9:30 a.m. | Education Building — Classroom B |
| 12) * | 7:30 p.m. | Education Building — Classroom C |
| | | |
| 12) | 7:30 p.m. | D.B.G. House — Main Room |
| 14) * | All Day | Education Building — Mitchell Hall |
| 14) * | 1:30 p.m. | Education Building — Classroom C |
| 15) * | 2:00 p.m. | D.B.G. House — Main Room |
| | | |
| 16) * | 7:00 p.m. | Education Building — Classroom A |
| 18) * | 9:00 a.m. | Education Building — Classroom A |
| 18) | 9:00 a.m. | Education Building — Classroom C |
| 18) * | 7:30 p.m. | Education Building — Mitchell Hall |
| 18) * | 7:30 p.m. | Education Building — Classroom B |
| 19) * | 9:00 a.m. | Education Building — Classroom C |
| 19) * | 9:30 a.m. | Education Building — Classroom B |
| 19) * | 4:00 p.m. | D.B.G. House — Dining Room |
| 19) * | 7:30 p.m. | Education Building — Classroom B |
| 19) * | 7:30 p.m. | Education Building — Classroom C |
| | | |
| 20) * | 9:30 a.m. | Education Building — Classroom B |
| 20) * | 7:30 p.m. | Education Building — Classroom C |
| | | |
| 23) * | 9:30 a.m. | D.B.G. House — Main Room |
| 23) * | 7:00 p.m. | Education Building — Classroom A |

"Travel Photography" — Richard Hodges
 Outdoor Guides Class
 Conservatory Guides Class
 Planning Committee Meeting
 "Winter Botany" — Dr. Wm. Gambill
 Parks & Rec. Dept. Supervisors Meeting
 Master Gardeners Class - Dr. James Feucht
 "Botanical Drawing" — Angela Overy
 Horticulture Advisory Sub-Committee Meeting
 "Plant Materials in Landscaping" —
 Mr. Alan Rollinger, Mr. Larry Watson
 Denver Orchid Society
 Civic Garden Club
 Gloxinia Gesneriad Growers
 Men's Garden Club of Denver

"Basic Vegetable Gardening" — John Brett
 Colorado Mycological Society
 Herbarium Committee Meeting
 Colorado Women's Conservation Club
 Executive Committee Meeting
 The Violeteers Club
 Outdoor Guides Class
 D.B.G. Guild Meeting
 P. R. & Development Committee Meeting
 Conservatory Plant Guides Class
 Horticulture Advisory Sub-Committee
 "Winter Botany" — Dr. Wm. Gambill
 "New Landscape Plants" — Dr. Richard Hildreth
 Master Gardeners Class — Dr. James Feucht
 "Botanical Drawing" — Angela Overy
 "Plant Materials in Landscaping" —
 Mr. Alan Rollinger, Mr. Larry Watson
 Denver Rose Society
 Hi Hopes Study Club African Violet Sale
 Film: "Great American Chocolate Factory"
 Bermuda Travel Group Meeting

"Basic Vegetable Gardening" — John Brett
 City Foresters Meeting
 Outdoor Guides Class
 "Wild Mushroom Identification" — Mr. Grimes
 American Rock Garden Society
 Master Gardeners Class — Dr. James Feucht
 "Botanical Drawing" — Angela Overy
 Chatfield Committee Meeting
 Indoor Light Gardening Society
 "Plant Materials in Landscaping" —
 Mr. Alan Rollinger, Mr. Larry Watson
 Potpourri Workshop
 Denver Botany Club

Ultra Violet Club
 "Basic Vegetable Gardening" — John Brett

CALENDAR OF EVENTS FOR FEBRUARY (continued)

24) *	12:00 noon	Education Building — Herbarium
24) *	6:30 p.m.	Education Building — Mitchell Hall
25) *	9:00 a.m.	Education Building — Classroom C
25) *	1:00 p.m.	Education Building — Classroom C
25) *	7:00 p.m.	Education Building — Classroom A
25) *	7:30 p.m.	Education Building — Mitchell Hall
26) *	9:00 a.m.	Education Building — Classroom C
26) *	9:30 a.m.	Education Building — Classroom A
26) *	9:30 a.m.	Education Building — Classroom B
26) *	10:00 a.m.	D.B.G. House — Main Room
26) *	3:00 p.m.	D.B.G. House — Dining Room
26)	7:30 p.m.	D.B.G. House — Main Room
27) *	9:00 a.m.	Education Building — Mitchell Hall

Herbarium Committee Meeting
Annual Membership Dinner
Outdoor Guides Class
Conservatory Guides Class
“Advanced Vegetable Gardening” — Mr. Brett
“Wild Mushroom Identification” — Mr. Grimes
Master Gardeners Class — Dr. James Feucht
African Violet Society of Denver
“Botanical Drawing” — Angela Overy
Around the Seasons
Horticulture Advisory Committee Meeting
Men’s Garden Club of Denver
Ikebana International

MARCH 1981

2)*	7:00 p.m.	Education Building — Classroom A
3)*	12:00 noon	D.B.G. House — Main Room
3)*	1:00 p.m.	D.B.G. House — Dining Room
4)*	4:00 p.m.	D.B.G. House — Dining Room
4)*	7:00 p.m.	Education Building — Classroom A
4)*	7:30 p.m.	Education Building — Mitchell Hall
5)*	9:00 a.m.	Education Building — Classroom C
5)*	1:00 p.m.	Education Building — Classroom A
5)*	7:45 p.m.	Education Building — Mitchell Hall
6)*	11:00 a.m.	D.B.G. House — Main Room
7)	9:30 a.m.	Education Building — Classroom C

“Basic Vegetable Gardening” — John Brett
Membership Committee Meeting
Editorial Committee Meeting
Planning Committee Meeting
“Advanced Vegetable Gardening” — Mr. Brett
“Wild Mushroom Identification” — Mr. Grimes
Master Gardeners Class — Dr. James Feucht
“Tropical Ground Covers and Vines” —
Heidi Fine
Denver Orchid Society
Civic Garden Club
Gloxinia Gesneriad Growers

**Members or enrollees only*

Tributes

In memory of the Rev. Raymond W. Cross

Mr. and Mrs. Robert M. Kosanke for peony collection

In memory of Marie Gallagher

Kathryn and Gerald Dinneen

Art and Georgiana Tidwell

In memory of William G. “Tex” Gressett

Mr. and Mrs. Robert M. Kosanke

In memory of Clyde and Elsie Learned

Norma G. Learned

In memory of Esther Simmons McNiel for Rock

Alpine Garden

Lloyd and Barbara Timblin

In memory of Jack Riley

M. W. Solt

Contributions have been received from the following friends:

Linda Doren

The Home Garden Club of Denver, a silver service

African Violet Sale

An African Violet Sale, sponsored by Hi Hopes Study Club, will be held from 9:30 A.M., to 4 P.M., Saturday, February 14, 1981, at Denver Botanic Gardens, 1005 York Street. Blooming plants, starter plants of new hybrids and old favorites, leaves, trailers, miniatures and gesneriads will be available. Part of the proceeds will help pay the expenses of a club representative to the 35th Annual Convention of The African Violet Society of America in San Francisco. The Botanic Gardens will receive a percentage of the proceeds also. Denver Botanic Gardens requests a \$1.00 **donation** at the gate. There is **no** admission fee to attend the sale.

A Good Day for Candy

Members who could not go to the Mountain Man Nut and Fruit Company may enjoy the film scheduled on February 14th at 1:30 p.m. in Classroom C. *The Great American Chocolate Factory* provides an interesting look at the people and products of the Hershey Factory. Viewers will see the growing and harvesting of the beans and then follow the process through the manufacturing of the chocolate bar. Free.



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$15.00 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 10th of each month preceding publication. Editor — Margaret Sikes, 575-2547.



Around and About the Gardens

During the winter months it is typical of most of our visitors to view only the indoor displays found in the lobby and conservatory. Even during a winter as mild as the one we are presently experiencing, the average visitor does not expect to find much of interest outdoors. However, this month there is a new display in the Demonstration Vegetable Garden which is well worth the walk to see it.

Those hardy enough to make this venture will find a small greenhouse-like structure at the southeast corner of the garden. This "cold frame" has been placed upon what is known as a "hot bed." The "hot bed" is a two foot deep pit filled with a mixture of fresh stable manure and leaves. Six inches of a good, loamy soil is placed on top for a growing medium. A gentle heat is given off by the fermenting mixture which heats the frame making it a miniature greenhouse. This method of heating the frame is so efficient that on sunny days the lid must be opened slightly to prevent the temperature from becoming too hot. Note that the frame is sloped toward the south in order to make maximum use of the weak winter sunlight. During cold nights the frame is covered with a tarp for extra insulation.

Inside this mini-hot house is found the beginnings of a fresh mid-winter salad! Among the vegetables being forced are radishes, carrots, beets, leaf lettuce, and spinach. Unfortunately it isn't feasible to grow tomatoes in a garden frame so we'll still have to buy them to make our salad complete.

Forcing vegetables for winter use isn't the only way to utilize a garden frame. It can also serve as a place to grow warm season vegetable transplants or to "harden-off" greenhouse grown transplants. About mid-April muskmelon seeds will be sown in the spots where the early crops have been removed. The frame will eventually be lifted out of the ground and removed as the warm weather of spring advances. Thanks to our garden frame,

we'll be able to harvest juicy melons a whole month before most other gardeners!

With a small investment and a few hours of research at the Helen Fowler Library, anyone can easily build and install a frame in their own backyard. Not only is it a money saving device, it will add an exciting new dimension to your gardening experience.

So, while the rest of the outdoors is brown and lifeless, come and see what's growing in the Demonstration Vegetable Garden.

David Savory
Staff

Classes

The trip to the *Mountain Man Nut and Fruit Company* is full. Those who signed up may meet in the parking lot of the House, 909 York, at 8:30 a.m. or at 6563 E. Parker Rd. at 9:30 a.m. on February 5. (Take Parker Road to Parker, turn left at the stop light and go two blocks. Parking is to the north of the building.)

An Anglo-Saxon Riddle runs thusly: "I saw a creature in the cities of men, who feeds the cattle; it has many teeth; its beak is useful; it goes pointing downward; it plunders gentle and returns home . . ." *Basic Vegetable Gardening*, a five-week class will start on February 9 and continue each Monday to March 9, 7-9 p.m. Classroom A and *Advanced Vegetable Gardening*, a two-week class, will be offered on February 25 and March 4, same time, same room. For further information as to the costs please check the *Schedule of Classes* but in either class, you may learn of the many uses of a RAKE.

Wild Mushroom Identification, cosponsored by Colorado Mycological Society and the Gardens, will start on February 18 and continue each Wednesday through March 25, 7:30 - 9:30 p.m., John C. Mitchell Hall. Over 1000 slides are used to help the students learn the distinguishing characteristics of mushrooms. You will also learn how to make a spore print, some common poisonous and edible mushrooms plus collecting techniques and proper transportation and preservation of mushrooms. Cost: \$20.00.

Denver Botanic Gardens, Inc.
909 York Street
Denver, Colorado 80206
303-575-2547

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February 1981

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Green Thumb Newsletter



Number 81-3

March 1981

Classes

Gardener, if you listen, listen well:

Plant for your winter pleasure, when the months dishearten

Plant to find a fragile note

Touched from the brittle violin of frost.

V. Sackville-West

Plants that give pleasure but that are often overlooked by their growth habit will be discussed on March 5 from 1 to 3 p.m. Heidi Fine, conservatory gardener, will meet her group in Classroom A and then go the Conservatory to point out *Tropical Ground Covers and Vines*. There is no charge for this class.



The rose doth deserve the chief and prime place among all flowers whatsoever, being not only esteemed for his beauty, vertues, and his fragrance and odoriferous smell, but also because it is the honour and ornament of our English Scepter. . .

Gerard

The 1981 *Rose Symposium* on Saturday, March 21, 1981 is geared towards all levels of rose enthusiasts. This year's featured speaker will be Howard Walters, President of the American Rose Society. Howard, author of "Rosarian Ramblings" in the *American Rose* magazine, is well known for sharing his wit and wisdom on basic rose gardening. He has a special way of mixing joy with the work of gardening.

All this contributes to the theme of the morning on how roses can help to make your life nicer. Topics such as growing roses indoors and out plus some of the new approaches to rose growing and gardening all add up to an exciting and interesting morning. Everyone is invited to join in the morning's events and to bring your questions about roses. The *Rose Symposium* will be at 9:30 a.m. on Saturday, March 21st in John C. Mitchell Hall. Free.

"Capirotada" (a bread pudding) is one of the dishes featured in *Mexican Cooking for Easter*. As of this writing four spaces remain for this class on March 24. Meet at 9 a.m. in the preparation room off the Hall and bring a rolling pin. The cost is \$6.00 for members and \$8.00 for non-members.

Easter Egg Decoration is full. Please bring at least three fresh eggs and a candle and come to Classroom B at 9 a.m. on March 26.

It will soon be time for field trips. Please remember to share gasoline expenses and remember our meeting place is generally in the parking lot at the House, 909 York. Currently each rider should pay the driver 6¢ a mile if he has two riders, 4¢ a mile if three riders, and 3¢ a mile if four riders. Please remember to check mileage before leaving and on return.

Travel Opportunities

Spend nine days (July 18-26) with the Denver Botanic Gardens touring some of the finest gardens and arboreta in the Pacific Northwest. The first stop is Portland to see four beautiful gardens; then on to Seattle where a visit is planned to the University of Washington's Arboretum; next, ride the ferry to Vancouver Island and the world-famous Butchart Gardens in Victoria and finally, tour the new VanDusen Botanical Gardens and the Botanical Garden of the University of British Columbia in Vancouver. Write *Travel Associates*, 7007 E. Hampden Ave., Denver, CO 80225 or call 759-8666 for further information. But meanwhile, mark your calendars for a free trip to the area on March 14 at 1:30 p.m. in Classroom A. Dr. Moras Shubert will show slides and give a commentary on the beauties of the Northwest and will highlight many of the areas to be visited later. Join us and then sign up for this exciting trip.

Welcome

Mr. Richard A. Kirk, President of the Board of Trustees of Denver Botanic Gardens, has announced the election of the following new members:

Mr. Howard (Bo) Callaway

Mrs. L. A. Waterman, Jr.

Annual Report

Members should soon be receiving their Annual Report for 1980. If you enjoy reading this and want to continue receiving it, please return the post card which will be inserted in your copy. Because of printing and postage costs we are trying to eliminate duplicate mailings. Thank you.

Landscape Design Symposium

The Adams County Extension Office will present a symposium on three Wednesday evenings in March at the Rodeway Inn, I-70 and Quebec Street. Some of the topics to be considered are site evaluation, soil conditioning, contemporary landscape design and energy conserving landscaping. Speakers include Dr. J. R. Feucht, Gary Niederkorn and Dr. Jack Butler. The dates are March 11, 18 and 25, from 7 to 10:30 p.m. and the cost is \$14.00. For further information call 659-4150.

Plant Records

How many plants do you own? When and from whom did you buy or receive them? How many have died or been given away?

"What is this?" you say, "Twenty questions?" No, not really — it's a lead-in to start you considering the enormous record keeping tasks at the Denver Botanic Gardens. To get a feel for it, follow me, if you will, and we'll trace an imaginary plant from arrival at DBG.

As our plant is delivered the person taking receipt of it fills out a Plant Material Received form (permanent items only — no annuals or temporary display plants) noting the plant's scientific name, current location, source (donor or commercial supplier's name), date received, how received (bareroot, container, etc.) and the quantity received. This information is then sent to Ms. Beverly Nilsen, Botanist-Horticulturist, upon whom the vast majority of the responsibility for record keeping falls. She enters this information into the Accession Ledger Book and assigns an accession number that will remain with our specimen throughout its entire stay at DBG. DBG's accession system is numerical: one example is 79104 — the first two digits denote the year of acquisition and the subsequent ones indicate the sequence position. In other words, this is the accession number for the one hundred fourth item acquired in 1979. When a specimen dies or is removed, its number is permanently retired.

At this point Beverly makes a careful investigation of each entry. The botanical (Latin) name is researched for accuracy and the family to which the plant belongs is recorded, as well as its common name and area of the world to which it is native. One other identification item is obtained — the name of the "author". This is the person who first officially identified this particular species. (As you read the statistics the remainder of this article, think back to this step and consider the time and work involved.)

Labels are now ordered. One is called a utility label and is primarily for use by the DBG staff. A second, the display label, is the familiar black and white one which is to aid you in your enjoyment of the Gardens.

Next a two-part record card containing all the above-mentioned information is made. One copy is kept in the Gardens' master files and one is sent to the Plant Sciences Data Center (PSDC) in Mt. Vernon, Virginia. PSDC is the national data center for information on collections of living plants.

Assumably by now our specimen plant is happily settled into its new home, be it the Conservatory or the grounds, and routine care and inspection are being performed by the staff. Should our plant die, be relocated within the Gardens, or be removed for any reason, this information is forwarded to Beverly for the appropriate record change. Also, a physical inventory is conducted annually throughout the Gardens, and pertinent information is noted on file cards and updated plant lists are compiled.

Now that we've traced our sample plant and noted the steps necessary to record its progress, let's consider the size of the task of keeping track of all the conservatory/greenhouse plants, perennials, propagation items, herbs, ground covers, shrubs and trees located at the Denver Botanic Gardens.

The following figures were taken from the 1979 physical inventory (propagation items not included).

	different kinds of plants	individual plants
Conservatory	680	888
Greenhouses	4,304	6,346
Grounds (trees + shrubs)	415	6,493
Grounds (perennials)	<u>1,450</u>	<u>5,320</u>
	6,849	19,047
+Rock/Alpine Garden planted summer 1980	<u>1,146</u> 7,995	<u>12,355</u> 31,402

As of December 31, 1980, 3,149 items had been assigned accession numbers indicating that calendr 1980 will surpass all other years past in terms of acquisitions.

So, back to my original question, "How many plants do you own?" When that question is asked of the Denver Botanic Gardens, there's an answer. But don't ask me, ask Beverly!

Karin Despain

(Editor's Note: Karin was one of our summer interns in 1980.)

Iris

It is not too soon to be looking for iris in the Gardens. *Iris danfordiae* and *I. reticulata* are both early and both lovely. Later in the season do plan on admiring the iris beds. Over 3600 rhizomes of 950 cultivars were sent by hybridizers from all over the country to the Gardens. These are termed "guest" iris because they will be dug up and returned to their owners after the American Iris Society Convention in June 1982.

Tributes

In memory of Donald Astin

Mrs. F. V. Altvater

Mrs. Florence Vatter

In memory of Stella Cohen

Mrs. E. Sydney Glick

In memory of Bertha A. Collins

Carl Blaurock

Karl T. Dreher

Jack Durkels

Mrs. F. W. Ethell

Mr. & Mrs. Ross V. Lahr

Mr. & Mrs. Robert B. McWilliams

Mrs. Robert Starks, Sr.

In memory of Marie A. Gallagher

James and Carol Brown

Mr. & Mrs. Ralph Fearn

Jerome and Rita Lohaus

In memory of Mrs. Sue R. McCan

Mrs. Brown W. Cannon

In memory of Mrs. Cecil M. McIntyre

Mrs. Thomas B. Knowles

Mrs. E. Warren Willard

Mr. & Mrs. Thomas S. Yancey

In memory of Pierce Eccles

Elsa Swyers, M.D.

Contributions have been received from the following friends:

Central District Presidents Council

The Johnston Group, an advertising donation in
"Club Ties."

Kula Botanical Gardens

Chapter B.F., P.E.O.

Public Service Company of Colorado

National Garden Bureau Plan
for 20 ft. X 15 ft.

Vegetable Garden

DIVIDE GARDEN INTO FIVE BEDS, EACH 2 ft. WIDE,
WITH 1 ft. WIDE WALKS BETWEEN BEDS



Planting Your First Vegetable Garden?

All it takes is one successful garden to make each succeeding vegetable garden a breeze. Yet, first gardens are, more often than not, overly-large, crowded and poorly arranged, with tall plants in the front and frequently harvested vegetables stuck way in the back.

Your next vegetable garden can be as pretty as a picture, sensibly arranged and of a practical size. Use this plan as a model and be sure to:

Plant no more than you can care for with ease in four to six hours each week.

Select varieties that are adapted to your area. Plant at the season recommended on seed packets.

Allow plenty of space for plants to grow; thin ruthlessly.

The 300 sq. ft. National Garden Bureau garden is 20 x 15 ft., about the size of a 1-car garage. It is designed to accommodate 13 kinds of vegetables and will supply most of the fresh vegetables needed by a family of three. It can be weeded, watered and harvested within an average of two hours' time each week.

Seeds for this garden will cost about \$6.50 yet, from it, you can harvest \$150 or more of delicious vegetables, depending on the length of your gardening season.

You might not care for some of the vegetables shown in the plan. Substitute others of comparable plant size. Seed packets

and gardening books can advise you. Your County Cooperative Extension Service offers free bulletins on vegetable gardening and lists of locally recommended varieties.

Depending on the length of the gardening season in your area, you can plant "succession crops" as soon as you have harvested the vegetables shown in this plan. Over most of the country, leafy salad vegetables, cabbage family members, and root crops can be planted as succession crops as late as August for fall harvest.

Let a Man Listen

A slim volume of poems by Dr. E. H. Brunquist is now available in the Gift Shop. Briefly, they are poems that impart the essence of his 91 years of living and will be treasured by all who loved Dr. B. Also while in the Gift Show, do notice the fine selection of bone china cups and saucers. These are from France, Great Britain and Sweden and the Swedish ones indicate the botanical name of the plant shown; teapots may be found there too to make your tea party a success.

Botany Club

Jess Green, a free lance photographer, will present a slide show "Domestic and Wild Flowers of the Southwest" at the next Botany Club meeting. This is scheduled for 7:30 p.m. on March 20 in Classroom C. Come and see these really outstanding pictures. Free and all welcome.

Calendar of Events



March 1981

- 2)* 7:00 p.m. Education Building — Classroom A
- 3)* 12:00 m. D.B.G. House — Main Room
- 3)* 1:00 p.m. D.B.G. House — Dining Room
- 3)* 7:30 p.m. Education Building — Classroom B
- 4)* 10:00 a.m. Education Building — Classroom C
- 4)* 12:00 m. D.B.G. House — Dining Room
- 4)* 4:00 p.m. D.B.G. House — Dining Room
- 4)* 7:00 p.m. Education Building — Classroom A
- 4)* 7:30 p.m. Education Building — Mitchell Hall
- 5)* 9:00 a.m. Education Building — Mitchell Hall
- 5)* 1:00 p.m. Education Building — Classroom A
- 5)* 7:45 p.m. Education Building — Mitchell Hall
- 6)* 11:00 a.m. D.B.G. House — Main Room
- 7) 9:30 a.m. Education Building — Classroom C

- 9)* 7:00 p.m. Education Building — Classroom A
- 9) 7:30 p.m. Education Building — Mitchell Hall
- 10)* 12:00 m. Education Building — Herbarium
- 10)* 1:00 p.m. D.B.G. House — Main Room
- 10)* 4:00 p.m. D.B.H. House — Dining Room
- 10) 7:30 p.m. Education Building — Classroom A
- 11)* 11:00 a.m. D.B.G. House — Main, Dining Rooms
- 11)* 3:30 p.m. D.B.G. House — Dining Room
- 11)* 7:30 p.m. Education Building — Mitchell Hall
- 12)* 9:00 a.m. Education Building — Mitchell Hall
- 13)* Noon Education Building — Classroom A
- 13) 7:30 p.m. D.B.G. House — Main Room
- 14)* All Day Education Building — Classrooms B, C
- 14) 1:30 p.m. Education Building — Classroom A

- 17)* 12:30 p.m. D.B.G. House — Main Room
- 17)* 7:30 p.m. Education Building — Classroom B
- 18)* 7:30 p.m. Education Building — Mitchell Hall
- 18) 7:30 p.m. Education Building — Classroom C
- 19)* 9:00 a.m. Education Building — Mitchell Hall
- 19)* 1:00 p.m. Education Building — Classroom B
- 19)* 4:00 p.m. D.B.G. House — Dining Room
- 19) 7:30 p.m. Education Building — Classroom B
- 20)* 9:30 a.m. Education Building — Classroom B
- 20)* 7:30 p.m. Education Building — Classroom C
- 21) 9:30 a.m. Education Building — Mitchell Hall
- 21)* 9:30 a.m. Education Building — Classroom B
- 21)* 1:30 p.m. Education Building — Classroom B

- 23)* 9:30 a.m. D.B.G. House — Main Room
- 24)* 9:00 a.m. Education Building — Prep. Room
- 24)* 9:15 a.m. Education Building — Classroom B
- 24)* 12:00 m. Education Building — Herbarium
- 24)* 4:00 p.m. D.B.G. House — Main Room
- 24)* 7:00 p.m. Education Building — Mitchell Hall
- 25)* 12:00 m. D.B.G. House — Dining Room

“Basic Vegetable Gardening” — John Brett
 Membership Committee Meeting
 Editorial Committee Meeting
 Denver Bonsai Club
 Guides Class — Mr. Merle Moore
 P. R. & Development Committee Meeting
 Planning Committee Meeting
 “Advanced Vegetable Gardening” — John Brett
 “Wild Mushroom Identification” — Mr. Grimes
 Master Gardeners — Extension Offices
 “Tropical Vines & Ground Covers” — Ms. Fine
 Denver Orchid Society
 Civic Garden Club
 Gloxinia Gesneriad Growers

“Basic Vegetable Gardening” — John Brett
 Colorado Mycological Society
 Herbarium Committee Meeting
 Colorado Women’s Conservation Club
 Executive Committee Meeting
 Colorado Cactus and Succulent Society
 D.B.G. Guild Meeting & Luncheon
 Horticulture Advisory Sub-Committee
 “Wild Mushroom Identification” — Mr. Grimes
 Master Gardeners Class — Extension Offices
 Colorado Parks & Recreation Society
 Denver Dahlia Society
 National Science Foundation Workshop
 Slides of the Northwest — Dr. Shubert

Rocky Mountain African Violet Council
 Denver Bonsai Club
 “Wild Mushroom Identification” — Mr. Grimes
 American Rock Garden Society
 Master Gardeners Class — Extension Offices
 Education Committee Meeting
 Chatfield Committee Meeting
 Indoor Light Gardening Society
 Potpourri Workshop
 Denver Botany Club
 Rose Symposium
 Hi Country Judges Workshop
 Rocky Mountain African Violet Council

Ultra Violet Club
 “Mexican Cooking for Easter” — Ms. Sandoval
 Junior League of Denver
 Herbarium Committee Meeting
 Board of Trustees Meeting
 Community Gardening Class
 Colorado Garden Show, Inc.

CALENDAR OF EVENTS FOR MARCH (continued)

- 25)* 7:30 p.m. Education Building — Mitchell Hall
26)* 8:00 a.m. Education Building — Classroom C
26)* 9:00 a.m. Education Building — Classroom B
26)* 9:30 a.m. Education Building — Classroom A
26)* 10:00 a.m. D.B.G. House — Main Room
26)* 3:00 p.m. D.B.G. House — Dining Room
26)* 7:00 p.m. Education Building — Mitchell Hall
26)* 7:30 p.m. D.B.G. House — Main Room
27)* 9:00 a.m. Education Building — Mitchell Hall
28) 6:00 p.m. Education Building — Mitchell Hall
29) 1:00 p.m. D.B.G. House — Main Room

APRIL 1981

- 1)* 10:00 a.m. Education Building — Classroom B
1)* 12:00 m. D.B.G. House — Main Room
1)* 4:00 p.m. D.B.G. House — Dining Room
1)* 7:30 p.m. Education Building — Mitchell Hall
2)* 7:45 p.m. Education Building — Mitchell Hall
3)* 11:00 a.m. D.B.G. House — Main Room
4) All Day Education Building — Mitchell Hall
Classrooms A, B, & C
4) All day Education Building — Mitchell Hall
Classrooms A, B, & C

“Wild Mushroom Identification” — Mr. Grimes
Parks & Rec. Dept. Supervisors Training
“Easter Egg Decoration” — Mr. Myron Kalba, Dr. Oksana Ross
African Violet Society of Denver
Around the Seasons Club
Horticulture Advisory Committee Meeting
Community Gardening Class
Men’s Garden Club of Denver
Ikebana International.
American Iris Society Dinner Meeting
American Hemerocallis Society

“Art in Nature” — Dr. Oksana Ross
P. R. & Development Committee Meeting
Planning Committee Meeting
“Wild Mushroom Identification” — Mr. Grimes
Denver Orchid Society
Civic Garden Club
Rocky Mountain African Violet Council
Show and Sale
Rocky Mountain African Violet Council
Show and Sale

**MEMBERS OR ENROLLEES ONLY*

All-America Rose Garden

Discovering roses in a public garden can be an enjoyable, rewarding experience. Littleton War Memorial Rose Garden, 5804 South Bemis Street, offers the opportunity to view approximately 850 rose bushes in the beautiful Sternes Park setting. Many current and older varieties of Hybrid Teas, Floribundas, Grandifloras, Miniatures, Polyanthas, and Shrub roses bloom profusely here from June until frost.

Recently, War Memorial Rose Garden was designated an All-America Rose Selections Public Display Garden. Each spring, the All-America Rose Selections (AARS) winners will be planted and labeled for the public to view, enjoy, and to decide whether or not these roses are appropriate for their home gardens. The 1982 winners are already on their way! These roses will be planted in March and the names of the new varieties revealed in June. The varieties include an apricot hybrid tea, a red blend hybrid tea, an orange blend grandiflora, and an ivory floribunda.

The Arapahoe County Rose Society has worked with the City of Littleton and the South Suburban Parks and Recreation District since the garden’s conception in 1968. Care and maintenance is now handled by South Suburban with members of the Arapahoe County Rose Society contributing many hours toward this project. Plans are now being developed by the City of Littleton to expand this area to the west and eventually

incorporate all this with their greenbelt. Old Garden Roses and Shrub Roses will be used in part in the transition area.

Tours of War Memorial Rose Garden are offered each summer by the Arapahoe County Rose Society. Rose culture and care, and the different rose varieties in the garden are discussed. Anyone interested can call Merl Doane, 781-6882 or Linda Brown, 795-3080.

The Smithsonian is Coming in April

The National Associate Program of The Smithsonian Institution will return to Denver for a two week series of lectures, concerts and exhibitions beginning on April 1. The events are co-sponsored by the Denver Botanic Gardens, the Children’s Museum of Denver, Inc., Colorado Historical Society, Denver Museum of Natural History, Denver Zoological Gardens and United Airlines.

Members will have received a brochure about the many events scheduled by the organizations involved but a special reminder about those at the Gardens may be in order. Two photography seminars by Kjell Sandved will be held on April 9 and April 12 from 10 a.m. to 2 p.m. The cost is \$20. A lecture by George Russell “Travels in Brazil: A Botanist’s Journal” on April 11 at 10 a.m. in the Hall will follow Smithsonian botanists in a quest for rare bamboos. Tickets are required and cost \$1. Those of you who were members on the occasion of the Smithsonian first visit to Denver will need no reminder to order your tickets early!



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$15.00 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 10th of each month preceding publication. Editor — Margaret Sikes, 575-2547.



Welcome New Members

Marcus & Bethne Amshoff
 William W. Anop & Family
 Jerry B. Arnold
 Judith H. Arrieta
 Charles E. Ball
 Alice W. Barnum
 Tom Bartley
 Mrs. John F. Baur
 Tony Berumen
 Mrs. Gregory Best
 Joan Betz & Family
 David W. Bird
 Lucille Boggess
 Joan Brallier
 Edmund & Susanne Brown
 Richard W. Bryans & Family
 May Bush & Family
 Janet M. Caniglia
 Mr. & Mrs. Ronald J. Carnes
 Diane E. Castellano
 Linda Christenson
 Diane Clark
 Terry & Mark Combs
 Dick & Sue Cramer
 Constance B. Crocker
 Judi C. Culver & Family
 Steve & Anne Cunningham
 Gabriel Dalby
 Mr. & Mrs. Thomas E. Detmer, Jr.
 Deepak K. Dhawan
 Katy Dickson
 Gary Douglas
 Barbara & Tom Eggers
 Victoria Eisel
 Lynette Emery

Maxine F. Foreman
 Mrs. Margaret E. Garner
 J. P. Geiger
 J. Richard Geraghty
 Gerald A. Gerash
 Mr. & Mrs. Thomas L. Gortz
 Robert Graham & Family
 Judith Greeley
 Joyce & Sharee Greene
 Richard Harner & Family
 Debra Hayden
 Richard S. Hill
 Kathy Hinde
 Kristi Allen Hughes & Family
 Dina Anne Minshull-Ford Isern
 Clara Jacob
 Lori Johnson
 Vessie L. Johnson
 Elizabeth J. Kaboth
 Martha W. Kelly
 Jayme Kenyon
 Terri Bredahl King
 Sharon Kloepper
 Randi Korn
 Johanna A. Kuiper
 Martha Lathrop
 Mrs. J. J. Lawson
 Janet K. Lederer
 Mr. & Mrs. Michael W. Lombardi
 J. J. Loughran
 Ronald J. Maybury
 Mr. & Mrs. Kirit Merchant
 Thomas J. Millar & Family

Mrs. Roy Moran
 Mildred Mumma
 Mr. & Mrs. Douglas E. Nelson
 Jo Person
 Donald G. Pesci
 Mrs. Keith R. Porter
 Martin F. Quigley
 Hackchan Rhee
 Bruce Rippeteau
 Mrs. Jean E. Robitschek
 Larry D. Schlichenmayer
 Rick Schmaltz
 Sally Sheridan
 Steve J. Skulavik
 Stephanie Slipke
 Pamela S. Smith
 Dr. Priscilla Spears
 Evelyn C. Stephens
 Mrs. John L. Stout
 Douglas B. Sutton
 Maryan Twyman
 Noboru Wakumoto
 Patricia Walker
 Margaret Warner
 Dr. C. Michael West
 Mrs. L. V. Wilson
 Joseph C. Wingerd, Jr.
 Richard Woodbury
 Irma Wyhs
 Jan Zeman

Let's continue to build our membership! Invite a friend to join or give a gift membership.

Denver Botanic Gardens, Inc.
 909 York Street
 Denver, Colorado 80206
 303-575-2547

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March 1981

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 Return postage guaranteed

Basmt. Storage

LIBRARY LINES

VOL. 4 - NO. 1
March 1981

A BIMONTHLY NEWSLETTER OF THE HELEN FOWLER LIBRARY OF DENVER BOTANIC GARDENS

Watch our below! Yes, the book sale volunteers are back down in the basement of the library sorting through a slew of boxes, bags of books and magazines. The generosity of past book sale patrons and friends of the library has resulted in an already large selection of material for this year's sale.

We have been accumulating book donations since last year's sale ended and will continue to accept them until sale time this year, May 8 and 9. So please bring us books you no longer need as well as magazines, records or prints. Please pass the word of our need for these sale items to your friends.

For the first time, the sale will be functioning without the help and guidance of Bernice Millard who has moved to Bethesda, Maryland. The Book Sale was Bernice's idea. She was the moving force in establishing the sale as an annual event. She contributed not only advice but innumerable hours. We will sorely miss her.

Kathy Fletcher.

Harris, Lloyd. THE BOOK OF GARLIC. Los Angeles, Panjandrum/Aris Books, 1979. \$8.95. GB 790 G3 H3778 1980.

I've enjoyed the recent publishing trend which has offered paperback treatment of some of our more common food plants. These small works have usually included, along with their cultural requirements, recipes of their preparation for the table. Written with a light, personal touch, they often belie considerable scholarship. However, the author (compiler?) of this book seems to try too hard to be humorous and often sinks to the sophomoric in an attempt to make his subject entertaining.

If you want to learn about garlic, you'll find all you need to know in this book. You'll just have to wade through a lot of silliness and repetition to find the information. The recipes are, indeed, tantalizing. A garlic lover will find much to enjoy; a non-lover might just be swayed.

Larry Latta

Withee, John E. GROWING AND COOKING BEANS. Dublin, N. H., Yankee, Inc., 1980. \$7.95. SB 327 W585.

The first sixty pages of this paperback offer interesting information on the botanical and historical backgrounds of our various types of beans. More important are the helpful tips on planting and growing them. Among the pointers are several methods of tying and spacing pole bean varieties.

However, the last half of the book which presents many tempting recipes, is worth the whole price. It includes instructions for soups, dips, salads, main dishes and side dishes made with both fresh and dried beans. One recipe which has already become a favorite of mine is "Black Beans and Vinegar" with a hint of the Caribbean. Whether or not you favor Tex-Mex, you will appreciate the subtle sophistication of this variation of a down-to-earth dish.

L.L.

Arnold, Henry F. TREE IN URBAN DESIGN. New York, Van Nostrand Reinhold, 1980. \$24.40. NA 9052 A756.

This book is about changing and developing urban species of trees so that they will enhance and restore the character of the city. Using examples of both American and European parks and open spaces, Arnold is successful in his explanation of spatial order and the relationship among man, nature and the city.

In a very organized manner, Arnold first presents a brief history of the use of trees in urban design. He defines the problem and develops criteria of design which develop into design principles. Application of these principles makes up the last chapters of the book. Included are growth requirements and adaptive qualities of trees, physical constraints and considerations when choosing and when planting trees. The author also discusses the need for change in local government policy towards planting and maintaining trees in the city.

The content and organization of this book should facilitate its ease of reading as an essential to city planners and architects. Landscape architects should be delighted that such an informative and well prepared volume is finally available to others interested in enhancing our urban environment.

Elise Huggins

Elise Huggins is a landscape architect employed by De Leuw Cather & Co.

Slack, Adrian. CARNIVOROUS PLANTS. Cambridge, Mass., The MIT Press, 1980. \$19.95. QK 917 S634.

The fantastic color and black and white photography in Adrian Slack's book about carnivorous plants may be just the means to encourage the viewer to read about these extraordinary plants. Mr. Slack points out that these could be cultivated from the standpoint of beauty alone for their outstandingly beautiful flowers are often overlooked when focusing on the insectivorous aspect.

Botanical descriptions of selected genera found throughout the world are presented as well as detailed cultural information on particular species.

In the appendices, the author has compiled a list of supplies providing worldwide access to plants and to the accoutrements required for successful culture.

The text was written for the intelligent, interested but botanically unversed reader, the glossary provides definitions for those terms essential to the correct presentation. The bibliography will introduce the novice to the standard titles on the literature of insectivorous plants. The index is excellent.

Claude Hansen.

Blamey, Marjorie and Philip Blamey. FLOWERS OF THE COUNTRYSIDE. New York, William Morrow, 1980. \$25.00. QK 306 B7345.

In Irving Stone's "The Origin" recounting Charles Darwin's Beagle journey, Stone tells us of a 1831 conversation between Darwin and Cambridge professor Adam Sedgwick wherein Sedgwick proclaims "Flowers to an Englishman are like blubber to an Eskimo. The beauty of them keeps our insides warm all winter long." Nowhere is this Englishman's historic love of flowers better exemplified than in Marjorie Blamey's "Flowers of the Countryside."

This is not another flower identification book. No indeed, for this is a labor of love! Having travelled the world to paint and record rare and beautiful plants depicted in the eighteen books she has illustrated, (including the best sellers "The Wild Flowers of Britain and Northern Europe" and "The Alpine Flowers of Britain and Europe") this book is special for it is a personal celebration of the wild flowers of her own countryside.

Now in her third career, having been a successful actress and photographer, she tells us with incredible charm of her love for the flowers and countryside. The water

colors are marvelous, her botany is acceptable, and her line drawings are dainty and expressive. The narrative in her book is extensive and covers many subjects including conservation, preservation, drawing, collecting, photography, wild flower gardening, botany and others too numerous to continue to list.

The color reproduction is of the quality we have come to expect from British printers, and it is printed on excellent paper. Sized 7.5 inches by 10.5 inches, it qualifies as a "mini-coffee-table" offering. You will not only want to read this book, at \$25.00, you will want to own it so you may reread it over and over again to "keep your insides warm all winter long".

Robert Heapes.

Tennant, Alan. THE GUADALUPE MOUNTAINS OF TEXAS. Photographs by Michael Allender. Austin, Texas, University of Texas Press, 1980. \$29.95. F 392 G86 T455.

When most people think of Texas, they do not usually think of mountains. Mountains are in Colorado, California or Wyoming. But, these mountains are in Texas, as are bears and eagles, pine trees, columbines and trembling aspen. The Guadalupe mountains are located at the southernmost tip of the Rocky Mountains. Though quite different in appearance from the Rockies, they offer some of the same and many unique species of plant and animal life.

Alan Tennant and his friend Michael Allender spent three years researching and photographing this area and have presented a valuable commentary. Alan has commanded the descriptive narrative to lead us from the earliest known natural and social history to the present day struggle to protect the land and to preserve its beauty. Michael Allender, a master of photography, has coupled his ability to capture the seasons' changes of this curious area on film with his talent to draw wildlife to portray the region explicitly. This book will let you know that there are mountains in Texas and a whole lot more.

Susan Praetz.

A final reminder: The Book Sale and Plant Sale are scheduled on May 8 and 9, 1981. Please donate your books so that the sale will repeat its success of past years and continue to allow the library to purchase books to enrich the collection for all members to share.

Green Thumb Newsletter



Number 81-4

April 1981

Gardening Tips for April

With dry conditions continuing and water restrictions a certainty again this year, let's hope that many April showers do come our way. It is likely that the winter drought has already taken its toll with some of your trees and shrubs, as well as some of the more exposed areas of the lawn. The damage may not be apparent at least in your trees until warmer weather occurs and the trees have leafed out.

While you may not be able to stop all of the drought injury, you are best advised to continue to deep water as has been mentioned in the past. Where possible, use a hose attached hose needle, such as the Ross Root Feeder. To get good water distribution, insert it in the ground 6 to 8 inches leaving it only a minute or so per spot. On newly planted trees start just at the edge of the root ball. On established trees start just inside the drip line, making holes several feet beyond.

Water restrictions over the past several years have led to some wasteful watering practices, and in turn created problems for trees and shrubs as well as lawns. There is a tendency to try to water the entire property on your watering day. This usually results in a poor penetration of water, much of which is lost through evaporation within a few hours. Strive this year to water on a priority basis. For lawn areas use your watering period to deep soak the areas of greatest need. For instance, south and west exposures should receive more concentration of water at more frequent intervals than east and north exposures. It may be possible to allow some lawn areas to go longer without supplemental water, watering every other or perhaps every third watering day. Shrub borders can easily get by with two deep soakings a month. If you have a sprinkler system and it has not been zoned to control the areas you want to water, it may be worth the investment to consult an irrigation company to rezone the system for more efficient water use.

Avoid the temptation to power rake your lawn this year even if you seem to have a heavy thatch built up. It is a better investment to use an aerator, the type that pulls a plug of soil. Use the machine both directions and it will perforate the thatch and help to improve deeper water penetration. Before using the machine, make sure the soil is not too dry. Give the lawn a deep water a few days before aerating.

Water efficiency can be improved in your flower and vegetable garden by spading in compost, aged barnyard manure or sheep and peat prior to planting. If your soil is sandy it will help to increase the water-holding capacity. If your soil is a heavy clay it will improve water penetration.

After you have planted your garden, a mulch will help to reduce the need for frequent watering. Avoid materials like mountain peat that tend to cake and actually repel water. Wood chips make a good mulch and ultimately break down to improve the soil. Strips of plastic between vegetable rows will keep the weeds down and reduce water loss through evaporation. If you don't mind the appearance, even newspapers laid between rows of vegetables and anchored down with rocks or a thin film of soil will help to cut down weed growth and conserve moisture.

You can do much to reduce water consumption by redesigning your yard, reducing areas of high water need and

using plants that, when established, require less water. An ideal book that is available has been published by the city of Aurora entitled, *Landscaping For Water Conservation In a Semiarid Environment*. This is available at a nominal cost through the city of Aurora, and also at the Botanic Garden Giftshop. For more tips on watering take advantage of the free CSU Teletips Service. Denver area residents call 825-1588, Ft. Collins 491-7387, all other exchanges 1-800-332-2473. Request tape numbers 1901-Trickle irrigation, 1902-Using mulches to conserve water, 1904-Watering trees and shrubs and 1410-Watering lawns.

Dr. J. R. Feucht

Northwest Tour

On Thursday evening, April 16, a program will be given at the Botanic Gardens concerning the up-coming tour of the Pacific Northwest in July. Merle Moore, Director of the Botanic Gardens and tour leader, will be showing a series of slides on some of the gardens, arboreta, and other horticultural attractions that will be visited on the tour. It is also planned to have several film presentations showing major tourist attractions in some of those larger cities to be visited. A representative of Travel Associates, Inc. will also be present that evening to answer questions you may have concerning the tour arrangements and sites that will be seen. This program will be given in Classroom C at 7:30 p.m. Reservations will be required and can be made by calling 575-2547.

Denver Botanic Gardens & Colorado Native Plant Society Plan Joint Field Trip

Rosxborough State Park — Saturday, May 30, 1981 (no, it *is not* Memorial Day weekend).

Bob Heapes, Field Trip Chairman for the Colorado Native Plant Society and member of the Denver Botanic Gardens has organized a field trip which will be sponsored by both groups. Rosxborough State Park, soon to be opened as our newest state park, offers a wide variety of wild flowers in late May which are unique with the Ponderosa zone.

Call Bob Heapes at 779-0888 or 841-3978 (before 9 p.m. please) to register for the trip and to get specific directions and information. There is no charge for this trip.

The Colorado Native Plant Society extends an invitation to all Denver Botanic Garden members for the other trips in the 1981 field trip schedule. They will be listed in future newsletters.

Plant Sale is Coming —

In the spring a volunteer's fancy lightly turns to thoughts of Plant Sale. As Barry Morrison of the *Post* says, it is more than a sale, it is a happening. For this happening, two things are vital — sellers and buyers. The latter has never been a problem, but we do need more of the former! Will you help? If you can volunteer, we need people to help set up and take down before and after the sale, besides working on May 8 and 9. Please call Carrie McLaughlin, 321-4798. Thank you. One more request — Do any of you have adding machines that we can use? Your donations would certainly be much appreciated.

An Open Letter to Asphalt Paving Companies, Architects and Contractors

Prepared by Dr. James R. Feucht, Professor,
Colorado State University

This paper has been prepared to call to your attention a problem associated with the use of weed control chemicals, of the soil sterilant type, beneath asphalt pavement. The problem is of sufficient importance and concern that this paper is jointly sponsored and underwritten by the Associated landscape Contractors of Colorado, the Colorado Nurserymen's Association, Colorado Chapter, American Society of Landscape Architects and the Plant Industry Division, Colorado Department of Agriculture.

The problem stems from serious, costly losses of plants used in landscaped areas resulting from contact of the chemicals used for soil sterilization with plant roots. Losses in just 2 years recorded through insurance claims, litigation and private settlements exceed \$110,000.00 by one horticulture appraiser alone, Mr. Eugene Eyerly, Eyerly & Associates. While there are no records of the total state-wide annual losses of landscape material from sterilants, the above documentation by Mr. Eyerly is indicative of a serious, costly problem. Because of the long-life nature of chemical sterilants, damages are frequently experienced over a period of several years from a single application. This adds considerably to the cost of reclamation of the contaminated property for relandscaping.

Records kept by Dr. James Feucht, Professor of Horticulture, Colorado State University, show that of 57 *documented* cases of soil sterilant damage, 29, (50%) are associated with sterilants used beneath asphalt paving such as driveways, parking lots and tennis courts.

Follow up investigations by Dr. Feucht as well as the Colorado Department of Agriculture and Mr. Eyerly, show that these damages were caused by sterilant chemicals being used, *in every case*, in ways inconsistent with the label.

Products used in documented damage cases, the chemical manufacturer and the number of cases related to asphalt paving are listed below:

Product Name(s)	Manufacturer	# of Damage Cases
Bromacil (Hyvar-X and XL)	DuPong	17
promotone (Pramitol)	Geigy	5
ureabor (a borate-chlorate, bromacil Mixture)		2
diuron (Karamex)	DuPont	1
2, 3, 6-TBA (Trysben 200)	DuPont	2*
tebuthiuron (Spike)	Elanco	1
picloram (Tordon)	Dow	1

*Also in combination with bromacil.

As can be seen by the table, bromacil (often used in combination with 2,3,6-TBA, Trysben 200) leads the list of damage cases yet all products of this nature produced by the manufacturer, E.I. DuPont, carry warnings about their use near desirable vegetation. This is carried in bold-faced type on the front panel of the product. For instance, both Hyvar-X and Trysben 200 labels state the following: "IMPORTANT — Injury to or loss of desirable trees or other plants may result from failure to observe the following: Do not apply, or drain or flush equipment on or near desirable trees or other plants, or on areas where roots may extend, or in locations where the chemical may be washed or moved into contact with their roots. Do not use on lawns, walks, driveways, tennis courts or similar areas . . .". The products are not labelled for use under asphalt.

Elanco's product, *Spike*, although indicating use under asphalt, clearly warns about its use near trees and shrubs. The label also states that ". . . feeder roots of many species of desirable vegetation extend many feet beyond the drip line of branches and a very small amount of *Spike 80W* in contact with one feeder root of a tree, shrub or other desirable vegetation may cause serious injury or death to the entire plant . . .".

It is obvious that chemical soil sterilants cannot be used without risk of serious plant loss in the average landscaped area because of roots of trees, especially in the areas of heavy, clay soil, extend into most if not all of the planting site. It has been found, for

instance, that one mature elm tree of 70 feet height can have feeder roots extending a radius of more than 150 feet from the tree center. A spruce with a branch spread of 15 feet will have some roots extending 6-10 feet beyond.

Further investigation of sterilant damages associated with asphalt paving have shown that in *most* cases, the chemical did not wash *into* the root zone but rather, that roots extended into the treated area or were already present at time of treatment. Because roots may grow *into* a treated area, damages may not show up until several years after the chemical and asphalt was applied.

It is also a known fact that tree roots will tend to grow abundantly between the soil surface or gravel base and the asphalt. This is because the pavement reduces air exchange to the soil and roots that would normally grow at a 6" - 12" depth in non-paved areas, grow at the surface interface between soil and pavement for needed aeration. Paved areas with a gravel base are even more favorable for tree roots than those with a soil base.

What Are the Alternatives?

It is recognized that some types of weeds under asphalt can be very damaging to the pavement and cause rapid deterioration. Field bindweed, quackgrass and other perennial types can cause pavement upheaval, cracking and consequent deterioration through freezing and thawing of water that penetrates.

Fortunately, there is an alternative that has been shown to be even more effective than sterilants, yet causing no damage in controlling weeds under asphalt. The product is dichlobenil (Casoron) produced by Thompson-Hayward Co. It is *fully* labelled for use under asphalt. Because it merely *inhibits* plant growth and is not taken up by tree roots, it can be safely used in areas where trees and shrubs are growing. It works this way:

The chemical is applied to the base following removal of existing weeds and just before the asphalt is to be laid. After the asphalt is layed, the chemical forms a vapor (gas) barrier, weed growth is inhibited. The same thing happens to tree roots which may extend into the treated area.

Because the barrier lasts three or more years (under a 2-inch asphalt) weeds eventually starve to death — even bindweed.

Another method, particularly effective on quackgrass, is to apply glyphosate (Roundup) a Monsanto product, on existing vegetation several hours or days prior to paving. This chemical is absorbed by the weeds and moves into the deepest roots, killing the entire plant. It leaves no soil residue. Casoron is then applied just prior to paving, as described above, to prevent new growth or may be applied only along the edges to prevent encroachment of weeds from adjacent unpaved areas.

We urge you to use these alternatives in control of weeds under asphalt paving. It will help to reduce serious losses to the valuable trees and shrubs in your community.

Stanley Brown, Jr.
President, Associated
Landscape Contractors of
Colorado

Mark A. Fyke
President, Colorado
Nurserymen's Association

R. R. Sullivan
Director, Plant Industry
Division, Colorado
Department of Agriculture

Randall B. Fitzgerald
Director, American Society of
Landscape Architects,
Colorado Chapter

It has been necessary to mention products and trade names in this letter. This in no way implies that these products are endorsed or condemned by the undersigned or member or employees of the organizations they represent.

(Editor's Note

The above "open letter" on soil sterilants is intended for commercial paving companies, architects and contractors but it should be a warning to home gardeners as well. The products mentioned are mostly used commercially but readily available to anyone are such chemicals as Triox, a soil sterilant lasting 3-5 years in most soils and a preemergent chemical called Treflan. Triox has resulted in about 26 percent of the damage cases recorded in the past 10 years. Treflan (not a sterilant) has caused long range damages right at the Botanic Gardens!

Please use any chemical with caution.

Welcome, New Members

Enid E. Adams
Jonathan and Patricia Allen
William R. Allen, II
American Television &
Communications Corporation
C. E. Basner
Mr. & Mrs. Aldo G. Behrensmeyer
The Thomas G. Berry Family
Mr. & Mrs. George Breen
Mrs. C. D. Brown
Doris Brownson
Tim Buchanan
Mrs. Jean Buckman
Kathryn Cain
Bonnita Carlson
Janice Cartier
Carol W. Cass
Susan Cheney
Katharine V. Chilcote
Hresula Constant
Mrs. Francis V. Crane
Mr. & Mrs. D. J. Cronin
Peggy L. Culbert
Carol Dahms
Lowell E. DeFeo
Dr. & Mrs. Alfred Den
Mrs. J. A. Deter
Russ W. Dixon
Mr. & Mrs. John L. Driscoll
Linda Dugan
Mrs. Beth C. Dunbar
John Elfers
Dr. & Mrs. D. J. Egan
Linda Emmerman
David Fletcher
Elizabeth Forgy
Mr. & Mrs. Richard R. Frahm, III
Stephanie L. Futro
Lenore Goddard
Heidi Goranson
Geraldyn S. Haas
Mr. & Mrs. Don K. Hackett
Sondra Hair
Charlotte Hartley
Marianne M. Hayes
Neil W. Herman
Ruthanne Johnson Hibbs
Mr. & Mrs. F. Allan Hills
Penny Hinckley
Mr. & Mrs. G. E. Hollis
Robert E. Howard
Mr. & Mrs. Bob Huskey
Fran Jackson
Lucille Jeanz-Halle
Donald Kearns
Mr. & Mrs. Thomas J. Kearns
Linda Kelm
Andrew R. Knauer
Christina L. Kraemer
Ron and Sheila Liston
Frances B. McAllister
Joan McTaggart
Leslie Martinez
Mary Anna Marty
Mrs. A. N. Masse'
James E. Medina
Michael & Michelle Morgan
Morres P. Morgensen
Barbara A. Olmsted
Susan Patterson Otis

Samuel M. & Kathleen W. Parnell
Tom Phoenix & Family
Art Pontow
Mr. & Mrs. M. I. Pope
Mr. & Mrs. Dennis John Powell
Mr. & Mrs. James J. Powers
Joann Pranger
Peggy Ratte
A. V. Rhoads
Ronald D. Rhodes
Dennis W. Richards
David W. Rome
Nancy Rygg
Bruce Sattler
Dr. & Mrs. William Seltzer
Ella Jane Settles
Kathryn & Richard Shapiro
Elizabeth Simonds
Mrs. Leah R. Smith
John M. Sphatt
Linda M. Stansen
Barbara Taylor-Brodnax
Lon Vincent
Mrs. Julia Walker
Mr. & Mrs. George Walters
Mary Waters
Mr. & Mrs. Delmer F. Watson
Charlene Wheeler
Lee Anne White
Kathleen A. Williams
Mr. & Mrs. James G. Wolfe
Winifred Wortman
Mike Wyble
Mr. & Mrs. Edmond Zimmerman

Let's continue to build our membership! Invite a friend to join or give a gift membership.

Tributes

In memory of Bertha A. Collins

Amelia B. Barnard
Sally and Richard M. Burkey
Mr. & Mrs. T. W. Chambers
Roxana C. Hair
Harriette W. Johnson
Dee Morgan Kilpatrick
Dr. and Mrs. Charles B. Kingry
Margaret Lewis
Margaret W. Olson

In memory of Sally Wilson Johanson

Jean Van Loan

In memory of Mrs. Evelyn Kile

Solange Gignac

In memory of Mrs. Cecil M. McIntyre

Mrs. Stephen H. Hart

In memory of John Norman

Kathie N. Anslow
Mr. & Mrs. J. Kesselman
Leona and Arnold Norman

In memory of Richard C. Wright

Jean Van Loan

Contributions of cash, goods or services have been received from the following friends:

Mr. Ralph A. Bard, Jr.
Columbia Savings and Loan
Lucile Downer
Jane Silversmith Ries
Dr. Moras Shubert

Calendar of Events



April 1981

- | | | | |
|------|--------------------------|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| 1)* | 10:00 a.m. | Education Building — Classroom B
(This class continues for 7 weeks through May 13th) | "Art in Nature" — Dr. Oksana Ross |
| 1)* | 12:00 noon | D.B.G. House — Main Room | P. R. & Development Committee Meeting |
| 1)* | 4:00 p.m. | D.B.G. House — Dining Room | Planning Committee Meeting |
| 1)* | 7:30 p.m. | Education Building — Classroom C | "Wild Mushroom Identification" — Mr. Grimes |
| 2)* | 10:00 a.m. | D.B.G. House — Main Room | Plant Sale Meeting |
| 2) | 7:45 p.m. | Education Building — Mitchell Hall | Denver Orchid Society Meeting |
| 3)* | 11:00 a.m. | D.B.G. House — Main Room | Civic Garden Club |
| 4) | 1:00—4:30 | Education Building — Mitchell Hall | Rky. Mt. Council—African Violet Show & Sale |
| 5) | 10:00—4:30 | Education Building — Mitchell Hall | Rky. Mt. Council—African Violet Show & Sale |
| 7)* | 9:30 a.m. | Education Building — Classroom C | "Anatomy of a Compost Heap" — John Brett |
| 7)* | 1:00 p.m. | D.B.G. House — Dining Room | Editorial Committee Meeting |
| 7) | 7:30 p.m. | Education Building — Classroom B | Denver Bonsai Club |
| 8)* | 9:30 a.m. | D.B.G. House — Main Room | D.B.G. Guild Meeting |
| 8)* | 3:30 p.m. | D.B.G. House — Dining Room | Horticultural Advisory Sub-Committee Meeting —
Chatfield |
| 8)* | 9:30 a.m. | Education Building — Classroom C | Intro. to Japanese Tea Ceremony — Mr. Kim Thrasher |
| 8)* | 7:30 p.m. | Education Building — Classroom B
(This class continues for 3 weeks through April 29th) | "Indoor Light Gardening" — Society Members |
| 9)* | 10:00 a.m.—
2:00 p.m. | Education Building — Classroom C
TICKETS REQUIRED | Smithsonian Institution — Photography
Seminar — Kjell Sandved |
| 9)* | 10:00 a.m. | D.B.G. House — Dining Room | The Associates Board Meeting |
| 9)* | 7:30 p.m. | Education Building — Classroom B
This class continues for 2 weeks through April 23rd) | "Beginning Bonsai" — Mr. Keith Jeppson, Mr. Harold Sasaki |
| 9) | 7:30 p.m. | D.B.G. House — Main Room | Denver Rose Society |
| 10) | 7:30 p.m. | D.B.G. House — Main Room | Denver Dahlia Society |
| 11)* | 9:00 a.m. | Education Building — Classroom B | "Learning for Living" — Joan Franson |
| 11)* | 10:00 a.m. | Education Building — Mitchell Hall
TICKETS REQUIRED | "Travels in Brazil — A Botanist's Journal"
Smithsonian Institution |
| 12)* | 10:00 a.m.—
2:00 p.m. | Education Building — Classroom C
TICKETS REQUIRED | Smithsonian Institution — Photography
Seminar — Kjell Sandved |
| 13) | 7:30 p.m. | Education Building — Mitchell Hall | Colorado Mycological Society |
| 14)* | 9:00 a.m. | D.B.G. House — Dining Room | Central Colorado Library Systems |
| 14)* | 12:00 noon | Education Building — Classroom A | Membership Committee Meeting |
| 14)* | 12:00 noon | Education Building — Herbarium | Herbarium Committee Meeting |
| 14) | 1:00 p.m. | D.B.G. House — Main Room | Colorado Women's Conservation Club |
| 14)* | 4:00 p.m. | D.B.G. House — Dining Room | Executive Committee Meeting |
| 14) | 7:30 p.m. | Education Building — Classroom A | Colorado Cactus & Succulent Society |
| 15)* | 9:00 a.m. | D.B.G. House — Dining Room | Central Colorado Library Systems |
| 15) | 7:30 p.m. | Education Building — Classroom C | American Rock Garden Society |
| 16)* | 9:00 a.m. | Education Building — Mitchell Hall | Ikebana International Demonstration |
| 16)* | 4:00 p.m. | D.B.G. House — Dining Room | Chatfield Committee Meeting |
| 16) | 7:30 p.m. | Education Building — Classroom A | Indoor Light Gardening Society |
| 17)* | 9:00 a.m. | Education Building — Mitchell Hall | Ikebana International |
| 17)* | 9:30 a.m. | Education Building — Classroom B | Potpourri Workshop |
| 17) | 7:30 p.m. | Education Building — Classroom C | Denver Botany Club |
| 18) | 9:30 a.m. | Education Building — Classroom C | Gloxinia Gesneriad Growers |
| 18)* | 4:00 p.m. | Education Building — Mitchell Hall | The Nature Conservancy Annual Meeting |

CALENDAR OF EVENTS FOR APRIL (continued)

- 20) 7:00 p.m. Education Building — Classroom C
- 21)* 7:30 p.m. Education Building — Classroom B
- 22)* 12:00 noon D.B.G. House — Dining Room
- 23)* 9:00 a.m. Education Building — Mitchell Hall
- 23)* 9:30 a.m. Education Building — Classroom B
- 23)* 10:00 a.m. D.B.G. House — Main Room
- 23)* 3:00 p.m. D.B.G. House — Dining Room
- 23)* 7:30 p.m. D.B.G. House — Main Room
- 24)* 9:00 a.m. Education Building — Mitchell Hall
- 25) 10:00 a.m.— Education Building — Mitchell Hall
4:00 p.m.

- 27) 9:30 a.m. D.B.G. House — Main Room
- 28)* 12:00 noon Education Building — Herbarium
- 30)* 3:00 p.m. D.B.G. House — Dining Room

May 1981

- 1)* 11:00 a.m. D.B.G. House — Main Room
- 2)* 9:00 a.m. D.B.G. House — Dining Room
- 2)* 5:00 p.m. Education Building — Mitchell Hall

- 5)* 1:00 p.m. D.B.G. House — Dining Room
- 6)* 4:00 p.m. D.B.G. House — Dining Room
- 8) 9:30 a.m.— Education Building & Grounds
5:30 p.m.
- 8) 7:30 p.m. D.B.G. House — Main Room
- 9) 9:30 a.m.— Education Building & Grounds
5:30 p.m.

Hi Country Bromeliad Society
Denver Bonsai Club
Colorado Garden Show, Inc.
Ikebana International Workshop
African Violet Society of Denver
Around the Seasons
Horticulture Advisory Committee Meeting
Men's Garden Club of Denver
Ikebana International
Dahlia and Gladiolus Societies
Combined TUBER SALE

Ultra Violet Club
Herbarium Committee Meeting
Education Committee Meeting'

Civic Garden Club
Wright-Ingraham Institute Board Meeting
Wright-Ingraham Institute Dinner Meeting

Editorial Committee Meeting
Planning Committee Meeting
ANNUAL PLANT SALE

Denver Dahlia Society
ANNUAL PLANT SALE

**Members or Enrollees only*

Andersons to Retire

Thanks from all are due to Berta and Bill Anderson, Editors of *The Green Thumb* magazine for the past five years. Their resignations were accepted with regrets. Fortunately, they are remaining in Denver and have promised to continue their association with the Denver Botanic Gardens. We shall call on them frequently!

More Classes

A *Flower Arranging* class, offered by Learning for Living, but taught at the Gardens by Joan Franson, President of the Associates, will be offered on April 11. Learning for Living is also offering a series of three classes; April 13, Jim Feucht will discuss *Selecting Trees for Landscaping Your Home*; April 20, Joan Franson will demonstrate spring flower arranging; and April 27, Gloria Falkenberg will give tips on growing and using herbs. These classes are in the "Lunch and Learning" schedule and will be taught at Columbia Savings at First Avenue and Detroit. For further information please call 629-3046.

Easter Items in the Gift Shop

Many, many topical items are now available in the Gift Shop. The egg motive is found in quail egg necklaces, alabaster, keepsale boxes in the shape of an egg (many with rabbits on top) and in cloisonne — beautifully boxed with stands for proper display. Rabbits too, are all over the shop in planters, figurines, Isabel Bloom rabbits and even English tins perfect for candies. The most famous rabbit of all, Peter, may be found along with a complete set of Beatrix Potter figures. These are priced from \$19.95 to \$21.95 (and you may also select buttons, books, and even stickpins of your favorite character).

Come and see what we have to offer! (And be sure to visit the Shop and the Annex at Plant Sale.)

Botany Club, April 17, 7:30 p.m.

This meeting is scheduled in the Herbarium. Please bring plants to identify.



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$15.00 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 10th of each month preceding publication. Editor — Margaret Sikes, 575-2547.



Classes

Try to capture some of the feeling of spring by signing up for *Art in Nature — Sketching*. Students will first work with charcoal, ink and conte' and then will add more individuality by using watercolor and pastels. The class starts on April 1 and continues each Wednesday for seven weeks from 10 a.m. to noon, in Classroom B and environs. The cost is \$30 for members, \$35 for non-members.

Lafcadio Hearn wrote of the Japanese Garden as "at once a picture and a poem; perhaps even more of a poem than a picture . . . not merely an impression of beauty, but a mood of the soul . . ." *Introduction to the Tea Ceremony* will mention many of these concepts and others too. Sign up now for this five-week class, April 8 to 29, 9:30 to 11:30 a.m. The first three classes will be taught in Classroom C and the last day in the teahouse itself. The cost is \$16 for members, \$20 for non-members.

Another class in April, *Beginning Bonsai* will also make many of us more aware of the culture of the East. This will start on April 9 and continue each Thursday evening through the 23rd, 7:30 to 10 a.m., Classroom B. The cost is \$22 for members and \$27 for non-members.

Indoor Light Gardening, April 8 to 29, 7:30 to 9:30 p.m., will discuss structural features, assembling components and basic electricity for light gardens, among other topics. The cost is \$18 for members, \$22 for non-members. **N.B.** All sessions in B; no tour of private homes.

One way to handle temptation is to yield to it! If spring is luring you outside, join us on April 15 for the first *field trip* of the season. Meet in the parking lot of the House, 909 York at 9 a.m. Free but bring lunch and share gasoline expenses with the driver.

Another free outing scheduled on April 21 when we will visit the *Denver Wholesale Florists* is full. Meet at 8:30 a.m. at 909 York or at 9 a.m. at 4800 Dahlia (take Colorado Boulevard north to 48th — turn right to Dahlia.)

Finally (one more change to succumb to temptation and leave the housework), on April 28 our Director, Merle Moore, will explain the changing scene at the Gardens. Meet at 9:30 a.m. at the parking lot at the House (but please leave your car in the main parking lot). Free but limited. Wear comfortable shoes.

Denver Botanic Gardens, Inc.
909 York Street
Denver, Colorado 80206
303-575-2547

TIME VALUE



April 1981

Address correction requested
Return postage guaranteed

Around and About the Gardens

April should prove to be an exciting month for the curious . . . As you walk the area this time of year, it becomes apparent that the Gardens is again bursting with life, not only in renewed growth, but in terms of activity as well. What shall you look for this time besides the *Narcissus* blooming, buds swelling, and colors teasing? Watch for life in the cover crop demonstration/trial area as Mung Beans, Crimson Clover, Burnet and many other seeds germinate and compete for the best of show. Pay attention to the construction of the new Rose Garden as walls, planters and beds transform level space into various dimensions. Observe the planting of over 300 Yuccas (*Yucca filamentosa*) used as ground cover rather than specimens; at the same time, notice the spacing and return this fall to see how closely they have or have not massed as one.

As you stroll down Linden Alle', you will be met with more changes. Ten newly planted Turkish Hazels (*Corylus colurna*) will be dramatized with Plumbago (*Ceratostigma plumbaginoides*) and Mountain Lover (*Paxistima myrsinites*) only to set the stage for the sculptured patterns of annuals for our yearly display. South of the Alle', temptation will walk you through the meandering path that will soon be lined with lilies and other perennials.

Well, this should give you something to think about for a few weeks — but it is only the beginning, we plan to tantalize on a monthly basis.

Gayle Weinstein
Botanist-Horticulturist

Rocky Mountain African Violet Council Show and Sale, April 4 (1 p.m. - 4:30 p.m.) and April 5 (10 a.m. - 4:30 p.m.) Classrooms A, B, C and John C. Mitchell Hall.

You are Invited

Do you enjoy doing handiwork? Sewing? Combining fabrics and colors? Join the Potpourri Workshop which meets on the third Friday of each month at 9:30 a.m. in Classroom B. These volunteers package 18 different fragrances in sachets, tooth fairy pillows and tranquility pillows. If interested, please call Fran Morrison 424-0706 for further information.

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Green Thumb Newsletter



Number 81-5

May 1981

Annual Plant and Book Sale

A spectrum of color and the KIMN Chicken! will greet the growing season as Denver Botanic Gardens does its part to help brighten our area with its Annual Plant Sale, May 8 and 9 from 9:30 a.m. to 5:30 p.m. in and around 1005 York Street.



The following will give you a brief notion of what to expect

If developing an attractive yet dry Colorado landscape is your goal then meet these natives, many new, at the *Rock Garden and Groundcover Booth* this year: Penstemons, paintbrush, pussytoes, evening primroses, clematis, gayfeather, hollygrape and pink plumes.

Penstemons are short to tall: *P. caespitosus*, not over 3 inches high forming wide evergreen mats with light blue or purplish flowers; *P. pinifolius*, the little evergreen firecracker, also mat-forming and about 6 inches high; *P. strictus*, 8 to 25 inches with dark blue tubular flowers; and the tall *P. grandiflorus* with pink-tinged blue blossoms and leathery greyish foliage.

For the adventurous, orange-red Indian paintbrushes are offered. Both *Castilleja integra* and *C. chromosa* grow 4-12 inches tall on dry hillsides and mesas from Wyoming to New Mexico. They're planted with essential pot-mates — sage (*Artemisia frigida*), fescue or grama grasses.

Pussytoes, excellent groundcovers, are lovely planted among flagstones. Their silvery (sometimes rosy) May flowers resemble little catspaws and their ever-grey foliage is especially pleasing. Occasional moisture and good drainage are their only needs once established.

Two Evening Primroses are low growing — *Oenothera caespitosa* with fragrant white blossoms aging pink, prevalent along dry roadsides from foothills to subalpine regions. *O. brachycarpa* has stemless bright yellow flowers emerging from

a rosette of long green leaves. *O. hookeri* is from 1 to 4 feet tall and its yellow petals turn red or purplish as they fade.

Both Clematis offered are reliable natives but new to this booth: *C. hirsutissima* (Sugar Bowl or Leather Flower) is a bushy plant with nodding purple urn-shaped flowers. Found on dry, open mesas from 5,000 to 9,000 feet they have feathery seed heads and finely cut foliage. The woody and robust *C. ligusticifolia* is useful for covering immense dry banks. Masses of creamy white blossoms are followed by typical feathery, almost cotton-like seed heads.

Mahonia repens, our native hollygrape, returns to the sale this year. Its extensive use in roadside plantings eliminated availability recently. Happy in sun or shade it stands drought and shearing. Its yellow flower clusters in early spring form blue berries attractive to birds and delicious in jelly. It can be invasive, the leathery evergreen foliage often adopts a mahogany hue during winter months.

Pink Plumes, *Geum triflorum*, with three urn-shaped blossoms to a stalk, has silky-rose plumes, grows in light shade or sun with average moisture and good drainage, and native to 10,000 feet. Others are gayfeathers with bright rose-purple spikes and our fragrant orange wallflowers. Wild strawberries make vigorous groundcovers delightful to the eye and palate.

Ivy, myrtle, pennywort, ajugas and candytufts are great for sun or part shade. Sunroses, an especially hardy strain of Iceland Poppies, coralbells, veronicas, a variety of thymes, uncommon stonecrops and hens and chicks are also suitable for dry situations.

Of course Rocky Mountain Columbine, coralbells, dainty saxifrages and bellflowers, plus Edelweiss and a host of other perennials for discriminating rock gardeners with average or ideal growing situations will be found at the *Rock Garden Booth*.

The *Gift Shop*, a favorite place for shoppers throughout the year, also is worth a visit on Plant Sale days. Many home decoration items may be found there. Look for figurines of brass, crystal and china. Boxes trimmed in copper with etched designs from nature are lovely accessories. Vases of all sizes for all types of arrangements from standard to Ikebana will be found there. A multitude of gift items handcrafted by Colorado Craftsmen are perfect for visitors to remind them of their vacations. The most complete selection of botanical and horticultural books in the city will be worth your consideration.

Outside in the *Gift Shop Annex* look for wind chimes, weathervanes, lanterns — chosen to beautify your garden. Here too are pots of all shapes, sizes and material — these are 25% off the regular price! — a real bargain.

Application for Membership in Denver Botanic Gardens will be found at the *Membership Booth* along with information of other benefits available to members.

Faithful "Dr. Green" will be at his usual booth to answer gardening questions along with the over 300 knowledgeable volunteers who add to the success of this outstanding community activity. Join us on May 8 and 9, 9:30-5:30 p.m.

Reminder: To be ready for this big event the Gardens will be closed on Thursday, May 7. Also: N.B. the deadline for the June Newsletter will be May 7.

Director's Invited Lecture

Our second speaker of this special series is Allen Paterson, Curator of the Chelsea Physic Garden, talking on “The Chelsea Physic Garden — Its History and Role Today”. This is scheduled for May 20 at 8:00 p.m. (doors open at 7:30) in John C. Mitchell Hall. A contribution of \$2.00 per person may be paid in advance or at the door the evening of the lecture. Reservations for this program may be made in advance by letter or phone (575-2547).

The Chelsea Physic Garden, the second oldest botanical garden in England, was founded in 1673. Under Phillip Miller (of *Dictionary of Gardening* fame) Chelsea supposedly “excelled all gardens in Europe for excellence and variety”. When Linnaeus came to England, he paid it a visit along with the Oxford Botanic Gardens. Currently the garden serves the teaching and research needs of London University and is not open to the public.

Join us on May 20 for this interesting presentation on a famous English garden.

Gardening Tips for May

It's planting time! One of the rewards of gardening is putting in bedding plants each year and watching them develop a show of flowers. Colorado is blessed with ample sunshine making the growing of many types of annuals, biennials and flowering perennials relatively easy. The biggest problem is usually the soil condition. Adding organic matter to the soil each year can eventually solve this problem.

Most every gardener has grown petunias, marigolds and zinnias but have you tried Gazania? This drought-enduring, showy tender perennial is easy to grow, forms a low ground cover and readily reseeds for a new crop the following year. I've planted on a berm (soil mound) where there is little water and it performs well. The foliage, at first glance, looks somewhat like dandelion; serrated, strap-like leaves low to the ground, but it is easily identified in that the upper surface is glossy green and the lower surface, chalky white. Gazania is a member of the *Compositae* (sunflower) family. The ray flowers are usually yellow or, in some species, crimson, with distinct purplish to brownish dots at the base. A head of flowers will be 2½ to 3 inches across on stems 6-9 inches tall. Look for this plant in the garden centers or at the Botanic Garden Plant Sale.

Another little-used but showy bedding plant is the African Daisy, *Dimorphotheca*. This annual, also called the Cape Marigold, is closely related to the Calendula but much lower in growth and, like Gazania, the flowers tend to fold up at night. Flowers are up to 3 inches across when fully opened and vary from white to yellow and a rich, apricot color. This annual is very useful in hot, dry locations and will reseed readily. Perhaps you saw the showy display of *Dimorphotheca* two years ago near the front entrance of the Denver Botanic Garden.

A sure winner for the dry, exposed site is Moss-rose (*Portulaca*). This rubbery-leaved annual seems to be able to thrive in almost any location except the very wet. It will grow out of a small crevasse in the sidewalk or a rock, seemingly in no soil at all. The variety of flower colors is tremendous and they come in single or double types. Did you know that this showy plant is closely related to the prostrate, rubber-leaved weed, purslane? Perhaps that is why Moss-rose is so prolific. Try it where you have had poor success with other plants due to excessive heat. If you're worried that this plant will come back and “haunt” you the following year with an over-abundance of

seedlings, relax. It does reseed but the surplus can be easily grubbed out. Besides, what better way to be neighborly than to pass some of the surplus to friends in the block?

Another heatbeater for your garden is stonecrop or sedum. More than a dozen different types are available locally. In tests of this group of succulents at the Denver Botanic Gardens several years ago the best from the standpoint of rapid cover of an area and over-all aesthetics included: *Sedum acre*, *S. acre minus*, *S. album*, *S. oreganum*, *S. divergens* and *S. anopetalum*. All of these are evergreen and do not have the tendency of some to develop a thinned, ragged look by late summer. *Sedum spurium* ‘Dragon's Blood’, also performed well but tends to thin in fall and winter. If you have wondered why common names were not cited for the sedums above, it's because they are so badly mixed up in commercial trade and go under many different common names. Look for these at the annual Botanic Gardens sale.

Don't be in too much hurry this month to plant out the tomatoes and peppers. Our weather and its sudden changes can lead to disappointment with such tender plants and they are often set back by a cool spell even if frost doesn't get to them. If you must, though, be prepared with an “instant greenhouse” to protect them. such a product is now on the market. It is wire mesh covered with a tough plastic and available in rolls 36 inches wide and 25 feet long. It can be formed into almost any shape and is self-supporting. The same covers can be saved and used at the end of the season to protect against an early frost and extend the growing season a few more weeks.

Be on the lookout for Tussock moth in spruce, fir or Douglas fir this month. This is particularly important if your trees or your neighbor's trees had them last year. The damage is done from the top downward. To detect them, place a piece of white paper or plastic about 8 to 10 inches square at the base of the trunk. Stake it down with a few nails to keep it from blowing. Check beginning about the middle of the month for signs of sand-like droppings or bits of chewed needles on the paper. If the tree is very tall, have a commercial spray company apply a control such as sevimol or Orthene. You may also wish to elect the use of a biological method, Thuricide, which is suspension of bacterium. This method is somewhat slower than others but if applied in the early stages of the caterpillar, will provide satisfactory control.

Grasshoppers are already on the move and can soon build up in destructive amounts. Some garden centers are selling a biological control known as the “Grasshopper spore” or Nosema. Like Thuricide for Tussock moth, this method is slower, taking up to four weeks before visible effects may be noticed. If applied early, it may help to reduce grasshoppers to tolerable levels. Use in “fringe areas” such as open fields near the yard as well as in the lawn itself.

Take advantage of the spring season to “wean” your lawn to less frequent applications of water. Use a core aerator both directions, soak the lawn deeply and then wait to water until the grass begins to look grayish or footprints in the lawn do not disappear quickly. Avoid watering on a time-clock or on the every watering day schedule as much as possible. In some areas such as north exposures, you can often skip a watering day. Keep the lawn cut at 2 to 2½ inches and apply a 20-10-5 fertilizer (or similar analysis) according to the rate indicated on the bag about every six weeks or as needed to maintain good density and color. Frequent aeration is the key to weaning the lawn and, if you can afford it, can be done monthly. The most beneficial times are spring and fall, however.

HAPPY GARDENING!

Dr. J. R. Feucht

Around and About The Gardens

Lilac time in Denver is upon us once again and it is a very special time of the year for this fragrant, vigorous, and graceful plant.

Development of the DBG collection began with plantings in 1977 and thanks to a donation provided by the Denver Foundation the lilac garden is nearing completion. Empty slots will be filled in this year with plants supplied from other parts of the country and possibly some from the annual lilac auction at the International Lilac Society Convention in Iowa in May.

The area is really starting to shape up and is well worth a visit. We have some of the best lilacs for the Denver area on display representing species, varieties, and cultivars that differ from one another in both flower and foliage and cover a considerable range of blooming period. Leaf forms vary from light feathery foliage to large heart-shaped designs. Flower colors sweep through whites, lilac, pink, magenta, purple, almost red and variations of those. Fragrances and sizes vary greatly also.

Come, walk the grassy pathways through the lilacs, note the *Potentilla tabernaemontanii*, *Fragaria ovalis*, *Waldsteinia fragaroides*, and *Duchesnea indica* ground covers spreading beneath the plants. Stroll up the berms and through the middle section, stop to smell the flowers and enjoy these truly beautiful plants.

Susan Praetz
Gardener Florist DBG

Botany Club, May 15, 7:30 p.m.

This meeting is scheduled in the Herbarium. Please bring plants to identify.

Important Convention

The Annual Symposium of the American Bonsai Society will be held in Boulder, June 4-6. Interesting speakers, demonstrations, tours — all this and more! For information call Keith Jeppson, 429-6519.

Denver Orchid Society Show, May 23 and 24, 10-4 p.m. John C. Mitchell Hall. Admission to show \$2 donation.

Welcome New Members

- Mr. & Mrs. Robert L. Albin
- Jeffrey P. Allis
- Mr. & Mrs. Henry E. Anderson
- Mr. & Mrs. James Artzberger
- DeLores Bartha-Philipp
- Raymond C. Bauml
- Mrs. Floyd K. Becker
- Lyle Behrends
- Lyman L. Blackwell Family
- Patricia G. Blue
- Mr. & Mrs. F. C. Boese
- Geraldine Boller
- Kenneth L. & Geraldine M. Bowman
- Allen D. Breck
- David Brooks
- Marilyn Brown
- Mr. & Mrs. Sam Brown
- J. Mark Burton
- Dr. & Mrs. D. G. Butterfield
- Pat and Mary Callahan
- Laura K. Clark
- Janet H. Coneys

- Robert Darling
- Sally DeFeyter
- Mr. & Mrs. Fred Dewalt
- Bill Drenguis
- Sandra Dunbar
- C. Carole Duncan
- S. K. Eads
- David J. Ehrman
- Neil L. Findling
- Mrs. Nancy B. Flanagan
- Ervin & Jane Frafjord
- Gretchen Francis
- Charles & Donna Frisch
- John J. Gould
- Jess Greene
- Marie Greer
- Mrs. Kenneth F. Grolle
- Ann Guessford
- Mrs. Marie V. Guy
- Barbara Guzzetti
- Mr. & Mrs. L. N. Hadley
- Ruth Herman
- Mr. & Mrs. Allen V. Heyl
- Patty Hoge
- Mr. & Mrs. Lyle E. Hollenbeck
- Rosemary L. Hopper
- Mrs. Thomas Howard
- Mr. & Mrs. Charles Hulbert
- Mr. & Mrs. Hal Hurst
- Carroll Shea Jersin
- Sheila B. Jewell & Family
- William G. & Shere Kahn-McMullan
- Kerry S. Kaster
- John A. Kennison
- Patricia Kerans
- Marilyn Kitch
- Cindy Knipple
- Anne LaTronico
- Elaine LaTronico
- Barbara K. Lindauer
- Victor F. Lopez
- Daniel L. McCord
- Miss Dorothy V. McGuire
- Paky Kyner McKinstry
- James R. McLean
- Tom Magee
- Keven Dirk Magruder-Sarlo
- Mary Malunat
- Theresa M. Meeks
- Kathleen Mickols
- Gary J. Miller
- Maimunah Morshidi

- Robert K. Mulvihill
- Lynn Musgraves
- Ray Nordmeyer
- Allison R. Olsson
- Phyllis C. Parsons
- Laine A. Paustian
- Ms. Marion E. Pech
- Beverly V. Peterson
- Mrs. J. Pfeffer
- Mrs. F. W. Pool II
- Douglas R. Posson
- Mrs. Alison Walczak Price
- Charles S. & Jennie Randolph
- Frances Rew
- Mr. & Mrs. Stephen P. Rochereau
- Howard A. Roitman
- Del Samac
- Douglas W. Sams
- Dr. Lynn F. Sander
- J. Michael Sandford
- Julie K. Sawaya
- Mr. & Mrs. Michael Scott
- Mr. & Mrs. Allen Shaw
- Marcia Shpall
- Donald E. Siecke
- Cynthia D. Smits-Fleiss
- John Stack
- Mr. & Mrs. A. P. Stansen
- Gerald & Betty Stapp
- Katherine Stewart
- Juanita T. Swigart
- Mr. & Mrs. John B. Tweedy
- Mrs. George Uyeno
- Caroline Van Pelt
- Mark J. Volpi
- Charles C. Waltz
- Linda Whetstone
- Peter White
- Ray White
- Mrs. Carol Whorton
- Larry & Janet Wilson
- Juanita D. Windes
- Chuck Woodward
- Debra V. Yearling

Let's continue to build our membership!
Invite a friend to join.

Your Membership Plant Give Away 1981

Our Annual Give Away will be on Friday, May 15th from 8 a.m. to 3 p.m. and on Saturday May 16th from 9 a.m. to 1 p.m. by the presentation of this coupon for either day on the basis of 1 (one) plant per membership (Family, Individual, etc.). Entrance to be made via Gaylord Street to the west end of the greenhouses.

Choices are as usual limited and you may fancy a Miniature Rose, Wolf's Honeysuckle, Alpine *Aquilegia* or the unusual deciduous confier Dawn Redwood for the outside. There will be other mixed shrubs as well. For inside plant lovers Christmas Cactus, *Streptocarpus*, Loquat trees or White Bell Flowers (*Campanula*) and Flamingo Flower (*Anthurium*) may be to your liking.

Bring your spare pots for replacement and it is again FIRST COME — FIRST SERVED so obviously the EARLIER the BETTER!!!

Calendar of Events



May, 1981

1)*	9:00 a.m.	Education Building — Classroom C	The Association of Interpretive Naturalists
1)*	11:00 a.m.	D.B.G. House — Main, Dining Rooms	Civic Garden Club
1)*	12:00 noon	Education Building — Classroom A	Hi Hopes Study Club
2)*	9:00 a.m.	D.B.G. House — Dining Room	Wright-Ingraham Institute Board Meeting
2)*	5:00 p.m.	Education Building — Mitchell Hall	Wright-Ingraham Institute Dinner Meeting
6)*	10:00 a.m.	Education Building — Classroom B (This class concludes on Wed., May 13)	"Art in Nature" — Dr. Oksana Ross
6)*	4:00 p.m.	D.B.G. House — Dining Room	Planning Committee Meeting
8)	9:30 a.m. — 5:30 p.m.	Education Building & Service Yard	ANNUAL PLANT SALE
8)	7:30 p.m.	D.B.G. House — Main Room	Denver Dahlia Society
9)	9:30 a.m. — 5:30 p.m.	Education Building & Service Yard	ANNUAL PLANT SALE
11)	10:00 a.m.	Education Building — Classroom B	"Vietnamese Vegetarian Cooking — Cha Gio" Dr. Nguyen Thi Hue
11)	7:30 p.m.	Education Building — Mitchell Hall	Colorado Mycological Society
12)*	12:00 noon	Education Building — Herbarium	Herbarium Committee Meeting
12)*	1:00 p.m.	D.B.G. House — Main Room	Colorado Women's Conservation Club
12)*	4:00 p.m.	D.B.G. House — Dining Room	Executive Committee Meeting
12)*	5:30 p.m.	Education Building — Mitchell Hall	International Personnel Management Ass'n.
12)	7:30 p.m.	Education Building — Classroom A	Colorado Cactus & Succulent Society
13)*	12:00 noon	D.B.G. House — Dining Room	P. R. & Development Committee Meeting
13)*	3:30 p.m.	D.B.G. House — Dining Room	Horticulture Advisory Sub-Committee for Chatfield
14)	7:30 p.m.	D.B.G. House — Main Room	Denver Rose Society
14)	7:45 p.m.	D.B.F. House — Mitchell Hall	Denver Orchid Society
15)*	9:30 a.m.	Education Building — Classroom B	Potpourri Workshop
15)*	8:00-3:00	Education Building — Service Yard	Membership Annual Plant Giveaway
15)	12:00 noon	D.B.G. House — Main Room	Home Garden Club Farewell Tea
15)	7:30 p.m.	Education Building — Classroom C	Denver Botany Club
16)	9:00-1:00	Education Building — Service Yard	Membership Annual Plant Giveaway
16)*	9:00 a.m.	Education Building — Classroom C	"Choosing a Home Lawn Sprinkler System" — Mr. Bob Wecal
16)*	9:30 a.m.	Education Building — Classroom B	Hi Country Judges Workshop
18)	7:00 p.m.	Education Building — Classroom C	Hi Country Bromeliad Society
19)	All Day	Education Building — Mitchell Hall	MUNICIPAL SPECIAL ELECTION
19)*	7:30 p.m.	Education Building — Classroom B	Denver Bonsai Club
19)*	7:30 p.m.	D.B.G. House — Main Room	Rky. Mt. African Violet Council
20)*	8:00 a.m.	Education Building — Classroom C	Colorado Council of Medical Libraries
20)	9:00 a.m.	D.B.G. House — Parking Lot	Plant Life Field Trip — Mary Edwards
20)*	1:30 p.m.	Education Building — Classroom B	"Collecting & Cooking Edible Plants" — Ms. Sue McPherson
20)	7:30 p.m.	Education Building — Classroom C	American Rock Garden Society
20)*	8:00 p.m.	Education Building — Mitchell Hall	"Chelsea Physic Garden — Its History and Role Today" — Mr. Alan Paterson, Curator
21)*	4:00 p.m.	D.B.G. House — Dining Room	Chatfield Committee Meeting
21)	7:30 p.m.	Education Building — Classroom B	Indoor Light Gardening Society
22)*	6:00 p.m.	D.B.G. House — Dining Room	Denver Orchid Society — Show Judges Dinner
23)	10:00-4:00	Education Building — Mitchell Hall	Denver Orchid Society Show
23)*	4:00 — 7:00 p.m.	D.B.G. House — Main Room	Denver Orchid Society Judges Reception
24)	10:00-4:00	Education Building — Mitchell Hall	Denver Orchid Society Show

LIBRARY LINES

VOL. 4 - NO. 2
MAY 1981

A BIMONTHLY NEWSLETTER OF THE HELEN FOWLER LIBRARY OF DENVER BOTANIC GARDENS

Helen Fowler Library Used Book Sale

8-9 May, 1981

9:30 A.M. to 5:30 P.M. Friday

Saturday 1 P.M. to 4 P.M.

Grocery Bag Sale

You can still afford to read, especially if you buy your books at this year's used book sale. In spite of inflation there are plenty of bargains to be found on Book Sale-Plant Sale weekend.

There will be two rooms, the library basement and classroom A, full of books on gardening, health, natural history, Americana, philosophy and other categories of non-fiction. The biography and travel section are especially good this year as are paperback fiction and romance.

All proceeds from the Book Sale are earmarked for the purchase of books for the library. Donations of books, prints, and records will be accepted until sale day. Should you be unable to deliver these to the library, please call 575-2547, X24 to arrange pick-up service.

The library receives many announcements of society meetings, trips being offered, national conferences, etc. All of these announcements will be kept in a box on one of the shelves displaying new books. Box is labelled Items of Interest.

Currently the box holds information on European excursions sponsored by the American Horticultural Society, a trip to the 10th World Orchid Conference planned by the Garden Center of Greater Cleveland, an outline of the 34th annual international lily show to be held at the Holiday Inn Portland South, Wilsonville, Oregon, 24-28 June 1981. There is also a list of art displays and flower shows to be presented at the National Arboretum, Washington, D.C. in 1981 plus the information on Alan McPherson's project, other meetings, etc.

Alan McPherson, coauthor of Edible & Useful Wildplants of the Urban West, is gathering information to write a book about national plants and/or flowers. He has requested color photographs, slides or drawings of these plants. For the list of these plants, please see folder in the box described above.

Angel, Marie and Ian Parsons. *BIRD, BEASTS, AND FLOWERS*. Boston, David R. Godine. 1980. \$10.95. PN 6110 N2 B5740.

Anyone who loves poetry and attractive illustrations will enjoy this book about nature.

Among the poets whose works are represented are Matthew Arnold, William Blake and Robert Browning.

The water color illustrations enhance the poetic choices forming a delightful group of paintings of birds, animals, trees and flowers.

Claude Hansen

Yanda, Bill and Rich Fisher. *THE FOOD AND HEAT PRODUCING SOLAR GREENHOUSE*. Santa Fe, N.M., John Muir Publications, 1980. \$8.00. SB 416 Y24 1980.

These authors and their collaborators have done a fine job of defining and refining the science of greenhouse technology.

This is a book of facts, figures, costs, measurements, designs, materials and equipment. The technical information is presented in layman's terms. Many photographs, drawings, and charts accompany the text. Every aspect of home greenhouse production is covered, from the construction to selecting a soil mix.

This work might be a bit overwhelming to the neophyte greenhouse hobbyist but the authors do offer state of the art coverage of the subject.

Kenneth Slump

Bengtsson, Gerda. *HERBS AND MEDICINAL PLANTS IN CROSS-STITCH: FROM DANISH HANDCRAFT GUILD*. New York, Van Nostrand Reinhold Co. 1979. \$6.95. TT 778 C76 B4658.

Flowering culinary and medicinal plants decoratively interpreted in cross stitch embroidery in linen are shown in twenty six colored reproductions of the original needlework. Full illustrations with diagrams are given for producing the exquisite designs based on a variety of plants including caraway, peppermint, sage, musk mallow, borage, foxglove and others.

Frances Hansen

Borland, Hal. *TWELVE MOONS OF THE YEAR*,
New York, Alfred A. Knopp. 1979. \$12.50
QH 81 B765Tw.

Interestingly written in diary style, this book contains a short editorial for each day of the year on some subject applicable to that time of year. For some thirty five years Hal Borland's editorials have appeared in the Sunday edition of the New York Times. Before his death in 1978, he selected 365 of his "outdoor editorials", out of nearly two thousand he had written, especially for publication of this book.

His feeling for nature is intense, and he makes the reader share his enthusiasm. He opens the reader's eyes to many beauties and to meaningful events which usually go unnoticed or unappreciated. He shows us how to recognize the signs of seasons, and how to interpret sounds and actions of the animal world. He points out the wisdom of nature, adding some of his own philosophy, while often "debunking" common beliefs in a delicate humorous way.

If you are not a nature lover before reading this book, you will become one before you finish it. It is easy, pleasant, relaxing reading.

Hazel Kellogg

Allen, Sarah, Editor. *EXPLORERS NOTEBOOK SERIES*. Eight books in series covering birds, flowers, insects and trees, Eastern and Western. Boston, Little, Brown and Company. \$1.95 each.

My first impression of this series was that it is too limited in its selection to be of much value in the field. But covering the field completely is obviously not the point, but rather to show the explorer the distinguishing markings or special features that will help the novice learn how to recognize a particular species. Each book has a center page of drawings to familiarize one with language used in descriptions. The description of each species is clear, brief and direct in emphasizing the distinguishing features. Space is also provided to make notes on conditions under which observations were made, a very good habit to encourage.

H.K.

The following is a list of new titles received by the library. All these books have been accessioned, cataloged and are ready to be circulated.

All About African Violets: the Complete Guide to Success with Saintpaulias by Montague Free. Garden City, N.Y., Doubleday, 1979. 255 p., ill. \$10.95. SB 413 A4 F73 1979.

Cacti and Succulents for the Amateur by Charles Glass and Robert Foster. New York, Sterling, 1976. 80 p., ill. \$4.95. SB 438 G538.

Flowers by Irving Penn. New York, Harmony Books, 1980. 95 p., col. ill. \$35.00. SB 407 P456 1980.

Jungles edited by Edward S. Ayensu. New York, Crown, 1980. 200 p., ill. (some col.). \$35.00. QH 541.5 J8 J86.

The Life (and Death) of Sarah Elizabeth Harwood by Mary Q. Steele. New York, Greenwillow Books, 1980. 118 p. \$6.95 j PZ 7 S8146.

Pods and Odd Bodikins by Jane Darnell and Patricia Hawkes. Chester, Conn., Globe Pequot Press, 1979. 112 p., ill. \$4.95. TT 900 C4 D2764.

Roses: a Popular Guide by Mark Mattock. New York, Sterling, 1980. 176 p., ill. \$12.50 SB 411 M3862.

Scientific Quotations: the Harvest of a Quiet Eye by Alan L. Mackay. Edited by Maurice Ebison. New York, Crane, Russak & Co., 1977. xii, 192 p., ill. \$19.50. Q 173 H2794.

Today's Flower Arranging Without Tears by Sarah C. Z. Groome. Philadelphia, Dorrance & Co., 1978. x, 75 p., ill. (some col.). \$8.95. SB 449 G766.

What Makes Popcorn Pop? by Dave Woodside. New York, Atheneum Publishers, 1980. vi, 74 p., ill. \$9.95. j TX 799 W6646.

Green Thumb Newsletter



Number 81-6

June 1981



You Are Invited

As mentioned in the May newsletter, five new gardens at the Denver Botanic Gardens will be open for viewing on June 2 from 5 to 7 p.m. Members are invited to stroll around 1005 York Street and admire the new additions. (Please show your membership card at the gate.)

The areas to be highlighted include the Scripture Garden, the Home Demonstration Garden, the Rock Alpine Garden and Alpine House, the Japanese Garden, and the Margaret E. Honnen Orchid Bromeliad Pavilion.

The Scripture Garden features a bronze medallion by William Joseph, which incorporates symbols of the Jewish and Christian faiths. A large black stone, the praise-plaque, contrasts with the lighter buff stone walls which contain many biblical plants such as lotus, figs, lentils, onions, and chicory.

The Home Demonstration Garden is planned as a low-maintenance garden. It presents many ideas to the home gardener for adaptation to his own particular site. Of special interest is the use of mulches and ground covers as a water retention device, particularly important in these days of water restrictions.

The dreams for an outstanding Rock Alpine Garden with a dynamic collection of representative plants, both native and exotic, became reality with the planting of over 15,000 plants last season. The garden was planned to provide natural habitats for plants having differing growth requirements; five basic kinds of rocks were carefully selected and placed; soils were prepared (every type from acid, peaty soils to limey screes); and a carefully-engineered water system was installed. Seeds were collected from around the world and then grown under proper conditions — all prior to being planted in the garden. The Alpine House contains those plants that cannot endure the extreme variations in temperature and humidity found outdoors in Denver.

Shofu-en, the "Garden of the Pine Wind", was dedicated in June 1979. It is an intimate, classical Japanese garden having an authentic tea house, gates, bridges, and fences that were all made in Japan, disassembled, then reconstructed on the site. Copper and stone lanterns were donated by Denver's sister city, Takayama, Japan.

From every part of the garden the Boettcher Memorial Conservatory is visible with its graceful, interlacing concrete arches and faceted plexiglass walls dominating the grounds. The Margaret E. Honnen Orchid Bromeliad Pavilion is adjacent to the west of the conservatory. The Pavilion's small dome is similar to that of the conservatory and it sits atop a large greenhouse spreading around its base, rather like a skirt. Lavish displays of orchids and bromeliads will be available for public viewing.

In addition to the June 2 date for members to view the new gardens, they will be open to the public on June 3 from 4 to 8 p.m.

Tributes

In memory of Mrs. Cecile Erickson
Ida Mae Rothell & Betty Charles

In memory of Mr. Billy Gene Florey
Mrs. Alice L. Fisher

In memory of Marie Gallagher
Ruth M. LaConte

In memory of Mrs. Mary Petrikin Kugeler
Genevieve K. Brock
Elaine C. Hodges
Mr. & Mrs. Joseph G. Hodges, Jr.
June Kistler
Mrs. Walter K. Koch
John J. McDonald
Frances P. Sargeant

Contributions of cash, goods or services have been received from the following friends:

Butchart Gardens, Ltd.
Colorado Womens Conservation Club
Evergreen Half Acre
Garden Club of Denver
Japanese Garden Society of Oregon
New Roots Garden Club
Southern Hills Planters—in appreciation of Ross Lahr's talk
Ultra Violet Club

Botany Club, June 19, 7:30 p.m.

This meeting is scheduled in the Herbarium. Please bring plants to identify.

Colorado Homes and Lifestyles

Be sure to see this new magazine in the Gift Shop! Lots of topical information, beautiful pictures, interesting articles, yummy recipes and much, much more.

Colorado Cactus and Succulent Society Show and Sale, June 20-21, 9 a.m. - 4:45 p.m., John C. Mitchell Hall.

Ultra Violet Club - Gloxinia Gesneriad Growers Combined Sale — June 6, 9 to 4:45 p.m., John C. Mitchell Hall.

Classes

Beginning Wheat Techniques is full. If you are signed up, please bring the material as listed and meet Mrs. Kline on June 8 at 7 p.m. in Classroom B.

Some interesting variations for beverages during the hot weather will be suggested in our *Herbal Teas* class. This will be taught on June 9 from 9 to 11 a.m. in Classroom B. The cost is \$5 for members and \$7 for non-members.

Basic Care of Orchids and Bromeliads is full.

Because of the great interest expressed in composting, Mr. Brett will discuss *The Anatomy of a Compost Heap* again. This is scheduled on June 11 from 6:30 to 8 p.m., Classroom C. There is no charge but please call and sign up. Limit 20.

Also Panayoti Callas, Paul Maslin and Allan Taylor have generously opened their *Boulder Rock Gardens* for a return trip on June 12. The cost is \$3.50 for members, \$5 if you are not a member. Limit 20. Please meet at 8 a.m. at the parking lot of the House, 909 York, or at 9 a.m. at 922 12th Street, Boulder. (Take the turnpike to Boulder, turn off on Baseline and go to 12th St. Turn right and park in the alley next to Beach Park.)

An opportunity will be provided on the morning of June 16 to see how the Denver Tech Center uses landscaping to enhance its property. (Prior to our visit, members may wish to reread the *Green Thumb* article, Winter 1972, on this area.) Mr. Ralph Snyder, a member of the American Society of Landscape Architects, will show us around and mention specific items of interest. Meet at 8:15 a.m. at the parking lot of the House (909 York), or at 9 a.m. at Building 2 Executive Park. (Take I-25 south to Belleview, turn right into DTC, 2 EP is on the left.) The cost is \$1.50 per person. Share gasoline expenses with the driver. Limit 20.

"Along with human kind's increasing capacity to change the environment comes the increasing need to understand the nature of that change." Our visit on June 24 to the *Parker Center for Advanced Study and Research* will help us understand this concept and its ramifications. The cost is \$1.50 per person, share gasoline expenses and please bring lunch. Meet at 8 a.m. at 909 York or at the Center at 9:30 a.m. (Take Colorado 83 south past Franktown, 14 miles south of Franktown, turn east on the Gillan Road and go 2.5 miles to the Center.)

June 17 join Mary Edwards' *Field Trip*. Meet at 9 a.m. at the parking lot of the House. Bring lunch and share gasoline expenses with the driver. Free.

The June 25 evening walk is full. However, if you did not sign up in time, please note the opportunity to join other members of the Gardens on June 2 for a special chance to tour the Gardens.

Finally, our destination on June 27 is to Colorado Springs for a *Tree Walk*. Please meet at 8 a.m. at 909 York or at 9:30 a.m. at Monument Park in the Springs. (Take I-25 to Uintah Exit, go east on Uintah to Mesa, turn right and go 3 blocks to Monument Park.) The cost is \$1.50 plus gasoline expenses. Limit 20.

N.B. Registration fees for classes and field trips are not refundable on amounts under \$5.

Special Speaker

Mona Dwork, the Director of Horticultural Therapy at the Friends Hospital in Philadelphia, will be our featured speaker in connection with the July 30 Horticultural Therapy Workshop. Watch for more information in the July newsletter concerning this knowledgeable speaker and her topic.

Tea House Opening

Again this season, we are pleased to announce that Kim Thrasher will be stationed in the Tea House of the Japanese Garden. Join him on June 6 from 10 to 12 noon.

Weekend Outings at the Grover Nature Center

July 11-12, Sept. 5-6, Sept. 12-13
Sat. 12 Noon to Sun. 1:00 p.m.

The Grover Nature Center is located on the outskirts of Grover, Colorado in the heart of the Pawnee Grasslands approximately two hours northeast of Denver. The building, managed by the Denver Audubon Society and the Grover Historical Society, is an old railroad depot renovated by volunteers from the Front Range Audubon Societies. It contains displays and information about the ecology and history of the Grasslands.

The unique ecosystem of the short grass has become of increasing interest to naturalists, ornithologists, students and wildlife enthusiasts in recent years. The weeklong Grasslands Institute is in its seventh year and many grade school and college students have attended programs at the nature center since its completion two years ago.

This year, members of the Denver Audubon Society are coordinating a series of weekend outings at Grover to introduce members of other organizations to the nature center, the Pawnee Grasslands — and to have a good time.

Join us for an enjoyable and relaxing weekend observing a variety of wildlife, including: antelope, burrowing owls, hawks, avocet, fox, longspur and mountain plover.

You provide your picnic lunch for Saturday and a sleeping bag — and Audubon provides the rest. Following a brief introduction on Saturday, you will spend the afternoon on a guided field trip, followed by a steak supper and an evening around the campfire. Sleep on cots under the stars — or in tee-pees. Sunday will begin with an early morning nature walk followed by a hearty breakfast. We'll provide you with a box lunch so you can spend the afternoon exploring on your own.

Total cost for the entire weekend, including 3 meals and an information packet: \$27.50. For further information call Denver Audubon Society, 399-3219.

Native Plant Society Field Trip

As promised in earlier Newsletters, other summer field trips by the Native Plant Society to which members of the Gardens are invited include:

June 13, 1981, Saturday — Florissant National Monument (near Florissant, Colorado)

Leader: F. Martin Brown, "Wild Flowers Past & Present"

The flowers of the past are represented by the many beautiful fossils dug at the site over the past sixty years. Martin Brown has been working with these fossils for much of this time, and will show us some specimens as they are taken from the beds. Additionally, wild flowers of the present will be recorded as we will accomplish the first plant inventory of the monument and some of the very first specimens for the herbarium will be collected. A fine educational experience for everyone from the beginning novice to the experienced veteran. Limit 15.

July 11, 1981, Saturday — Mt. Lincoln & Cameron Bowl

Leader: Louise Roloff, "An Alpine Experience"

We are fortunate to have a leader so experienced with the "very high" country of the Front Range. A forty year member of the Colorado Mountain Club and an excellent photographer, specializing in wild flowers, Dr. Roloff will lead us to a very special alpine tundra bowl to observe and photograph the alpine tundra flowers. Panayoti Callas, the curator of the Rock-Alpine Garden at the Denver Botanic Gardens, will give a short "trail-head" lecture about the alpine tundra as an ecosystem. Limit 15.

Call 575-2547 to sign up. There is no charge for any of these trips, but we do share gasoline expenses.

Gardening Tips for June

Exactly one year ago, this column talked about the slow start up of spring, the wet weather and the fact that it was hard to get out into the yard. I am sure you are all aware that this year spring happened two or three weeks early with only a temporary slow down in early May. This condition was preceded by a very mild winter, leading to severe drought conditions in many plants. The early warm-up not only allowed for a beautiful display of spring-flowering trees and shrubs, but also brought out an early invasion of insects.

Normally, by this time of year, we are talking about watching out for tussock moth because egg hatch will be soon and the crawler stage of scale on your lilacs. Most of these events have already happened. In the case of tussock moth, it is still not too late to do something about it. If you have spruce or Douglas-fir and particularly if tussock moth has been browning out the tops of these trees in your neighborhood in the past, it is important that you check them closely for signs of activity of these caterpillars. They work in the tops of the trees and often go undetected until the damage is done. If you haven't checked, an easy way is to stake down a piece of white cloth or plastic at the base of the tree and watch on a daily basis for signs of chewed needles and yellow, sand-like droppings. Close observation at this time of year will also divulge the caterpillars themselves. But look on the lower sides of the branches, hidden among partially hidden needles. Tussock moth caterpillars have four orange tufts of hairs on their back and black, horn-like tufts of hairs on each end. Any sign of activity warrants control using such contact insecticides as malathion, diazinon or orthene. If your trees are very large it would be wise to have them sprayed by a commercial pesticide applicator. If you've already had damage, don't be too quick to cut out the top of the tree. Generally new growth will be replaced from reserve buds.

Birch trees have been in trouble along the eastern Front Range for some time. This year is no exception with the prolonged winter drought causing dieback in the tops of many of them and in some cases, the complete death of the tree. Along with this has been an increase in the activity of the bronze birch borer. This greenish-bronze beetle is emerging about now and is depositing eggs in bark crevices. Within a week or so the eggs hatch and the larva burrow into the tree. Trees that are under drought stress are particularly subject to attack by this beetle. An application of lindane to the bark of the tree now will help ward off this problem. Keeping the tree in good health by giving it a good, deep watering and some fertilizer would also be wise. A foliar feeding with RA.PID.GRO or similar foliage fertilizer, might be a quick and easy way to do it. If you choose this method, apply it during the cool of the day to avoid foliage burn.

Weeds are bound to be a big problem this year. If you have turf that was weakened by previous drought or lawn insect activity, weeds will fill in in profusion. Most weeds can easily be controlled in turf areas by using the selective herbicide called 2-4,D. Such material is not as easily used in the flower beds or shrub borders and it might be better here to choose a combination of methods. Cultivation is probably the surest way to rid yourself of some of the annual weeds such as lamb's quarter, ragweed and the like. But if you have bindweed and thistle, cultivation will tend to propagate them. We are lucky now to have available a fantastic new control called glyphosate, sold in garden centers under the name Roundup (Monsanto), or Kleanup (Ortho). If these products are carefully applied to the foliage of bindweed, thistle, as well as grassy weeds, you can keep them in check. It is particularly effective on thistle and any type of grass. The important thing is to wait until you have a lot of foliage. Don't mow the weeds down before applying glyphosate. Glyphosate can also be used if carefully applied, as an edger along fences, curbs, rocks and other hard places to

mow. If you are converting a lawn area to other uses, it will quickly wipe out the lawn and because it has a very low residual in the soil (7 days), it allows you to plant soon after application.

Water conservation is on the minds of most everyone but I hope you will resist the tendency to cut out lawn areas only to replace them with large sections of black plastic and gravel. This has been discussed in the past, but just as a reminder, gravel will tend to create a hotter microclimate around your home. The black plastic underneath reduces oxygen exchange to the soil causing plants to develop shallow root systems. It is better to use a deep woodchip mulch without plastic underneath, even though you will have to contend with some weeds. The product mentioned above, glyphosate, makes weed control in these areas much easier. If you do use black plastic, try to confine it to small areas, using it in strips no wider than 18". Try to keep it several feet away from the bases of trees and shrubs.

Another distinct advantage of using organic mulch such as woodchips rather than gravel or plastic, is that you will gradually build a better soil. The chips that are in contact with the soil will gradually break down. This may lead to a temporary deficiency in nitrogen but this is quickly corrected by the addition of a commercial fertilizer.

Perhaps the best way to reduce water use in a yard is to gradually change the entire design, using plants that are more tolerant to drought. This may also mean changes in your sprinkler system. Most sprinkler systems are designed to water lawns and often tend to overwater trees and shrubs. Changing the types of heads and spray patterns and even rerouting entire systems can often reduce the amount of water needed and still have an attractive yard. More will be said in the future about designing your yard for low water use. In the meantime, you may want to take advantage of the free TELETIPS service offered by Colorado State University. Denver metropolitan residents may dial 825-1588. Other Colorado exchanges may dial 1-800-332-2473. There are a variety of taped messages on many subjects. Among them are the following on water conservation: #1404, Low Water Turf Varieties; 1904, Watering Trees and Shrubs; 1905, Home Water Saving Tips; 1410, Watering Lawns and 1203, Plants for Hot, Dry Locations.

Dr. J. R. Feucht

A Special Treat for Our Guides

For at least 4000 years *Aloe vera* (*A. barbadensis*) has been known as a healing and cosmetic agent. The gel in the leaf (aloin or barbaloin) contains over 50 substances but the main pain-reliever appears to be a polyuridine working in combination with calcium. To prepare a skin moisturizer, hair conditioner, or salve, one should mix equal parts of the gel and toilet lanolin in a blender. This should be stored in the refrigerator in a glass jar until needed. (Information courtesy *Avant Gardener*.)

The guides will have an opportunity to hear about this plant and many others on June 16 at 1 p.m. at the House, when Tom Benjamin, President of Everybody, Ltd., and Michael McCarthy of Herbal Reign will speak. A tropical tea will follow their presentation.

Special Speaker

Dr. Orson K. Miller, internationally known expert, will speak on "Interesting and Edible Agarics and Gasteromycetes" on June 12 at 7:30 p.m. in the Hall. The Colorado Mycological Society will have a display table on mushrooms and have invited all interested to come hear Dr. Miller. If you wish to bring mushrooms to be identified, please feel free to do so. All welcome without charge.



Ninety-Eighth Convention and Rose Show

The American Rose Society will be holding its Spring Convention in Denver, June 17-20th at the Stouffers Denver Inn. The Denver Rose Society and the Rocky Mountain District are hosting this 98th convention and rose show. This will be the first time in 11 years that this meeting will be held in Denver. About 500 conventioners are expected to attend. For a \$12.50 registration fee anyone may participate in the entire convention and be able to hear over a dozen programs presented by speakers from all over the United States. There are also tours and special meal events of varied kinds.

The National Rose Show will be held on Wednesday, June 17 (at Stouffer's Denver Inn) and is open to the public from 1:30 p.m. to 10 p.m. for a \$1.00 admission charge. Many unique silver trophies will be up for winning by the exhibitors. Several colorful exhibits will accompany the rose show.

Around and About the Gardens

Of all flowers, none has been as involved in history and legends as the rose. It became the flower of Aphrodite, goddess of love and beauty; the flower of secrecy in Rome; and the symbol of purity in Christianity. Today, the rose speaks a universal language of romance: June, the month of roses, is the month of brides.

The rose is older than man. A 40 million year old fossil was discovered in Colorado and botanists believe the rose evolved 60 million years ago, possibly in Asia and then dispersing itself throughout the northern hemisphere. The queen of flowers, as it is often described, possesses an elegance, a charm, a royalty displayed in its strength, color, and form.

And now, the rose with all its appeal brings a new dimension to the Gardens. Visitors can experience the rose and all its majesty as construction of the new Rose Garden grows towards completion. A specialty garden representing the encyclopedia of roses from species of shrub roses and climbers to polyanthas, floribundas, hybrid teas, and miniatures.

The new garden makes an intense appeal to many flower lovers as beauty unfolds from the lower levels of the sunken garden to the enclosures of overhead baskets and arbors. And as these views are channeled, the visitor can experience the royalty of roses in this unique garden.

Gayle Weinstein

Reminder

Deadline for reserving space on the Denver Botanic Gardens trip to the Pacific Northwest is June 15. For information call Travel Associates today and ask for Terry Bancroft (759-8666).

Free Film

Two films from the Italian Tourist Board "Festival and Tradition" and "Journey Through Italian Gardens" will be shown on June 13 at 1:30 p.m., Classroom C. Free, all welcome.

Plant Sale

Thanks are due all who worked so hard to make Plant Sale the success it was. The chairmen, who had worked for months, were ready; the volunteers stood, smiled, shivered, and sold, sold, sold; and the buyers marvelled at the variety available. A good but chilly time was had by all!

Denver Botanic Gardens, Inc.

909 York Street
Denver, Colorado 80206
303-575-2547

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June 1981

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Green Thumb Newsletter



Number 81-7

July 1981



Photo by Bob Dodge

Summer Serendipity on July 21

Members of the Gardens are invited to picnic on the grass of the amphitheatre. Bring your own supper and your blanket. Gates open at 6 p.m. and the music will start at 6:30 p.m. (John C. Mitchell Hall in case of inclement weather.)

Admittance will be by membership card or this newsletter.

Terrace and Garden Tour

July 23, 9:30 a.m. - 5:30 p.m.

The emphasis of this July's Denver Botanic Gardens Guild Tour is: See, Enjoy, Look, and Learn. Concentrated in Wheat Ridge-Applewood Knolls area, this year's tour will highlight six gardens. Intriguing brooks and ponds have been converted into garden assets by several homeowners. Additional challenges have been the problem of steeply sloping front and backyards. Many vegetable gardens have been included on this summer's tour.

Tickets are available at the Denver Botanic Gardens Gift Shop or call 575-2547 for additional information. Tickets at \$5 each will be available at any of the gardens on display on the day of the tour. Come join us to savour a variety of landscaping designs.

Special Lecture

Another lecture in the Directors Invited Lecture Series will be presented at 8 p.m. on July 30. Mona Dwork, Supervising Director of Horticulture Therapy for Friends Hospital of Philadelphia, will show slides and lecture on "Horticultural Therapy in a Private Psychiatric Hospital." Ms. Dwork is a graduate of Kansas State University, a charter member of the National Council for Therapy and Rehabilitation Through Horticulture, and teaches classes in horticulture therapy at Temple University and the Delaware Valley College of Science and Agriculture. The cost for this lecture will be \$2.00, payable in advance or at the door of John C. Mitchell Hall on the evening of the 30th. (People who are enrolled in the all day workshop will be admitted to this special event at no extra charge.)

Classes

Capture some of the beauty of this month by signing up for the *Drawing and Photography Field Trip* on July 8. Depending on your interest, bring the necessary equipment as listed in the Summer Schedule of Classes and meet at 8 a.m. at the parking lot of the House, 909 York, or at the Visitors Center, Golden Gate State Park at 9 a.m. (6th Avenue west to Golden, west on Washington Street which shortly becomes Colorado 93, follow it about 1-1/2 miles to the junction with Golden Gate Canyon Road, left and ahead 14 miles to Visitors Center). The group will go together to the area where you'll be working. There is very little hiking on this trip so bring a gourmet lunch if you wish! The fee is \$5 for members, \$7 for nonmembers. The State Park fee is extra.

The following trips are full. If you are on the list, your directions are as follows:

Loveland Pass — July 9, meet at 7 a.m. at 909 York or at 8 a.m. at the Forest Service Visitors Center in Idaho Springs (I-70 west to Idaho Springs exit 240, left to the Center); *Columbine Field Trip* — July 11, meet at 8 a.m. at 909 York; *Mt. Goliath and Summit Lake Field Trip* — July 17, meet at 8 a.m. at 909 York or at 9 a.m. at Echo Lake Lodge (I-70 west to Idaho Springs, left at Mt. Evans exit to Echo Lake on the road to Mt. Evans); *Golden Gate State Park Field Trip* — July 20, meet at 8 a.m. at 909 York or at 9:30 a.m. at the Visitors Center at the State Park (directions above, remember the State Park fee is extra); *Niwot Ridge/Long Lake Field Trip* (a rather strenuous hike) — July 25, meet at 7 a.m. at 909 York or at 7:45 a.m. at Boulder Public Library parking lot (Turnpike to Boulder, west on Baseline Road to 9th Street, north on 9th to Canyon Avenue — the library is at 1000 Canyon).

On all these trips plan on sharing gasoline expenses with the driver. The charge is figured as follows: 6¢/mile for 2 riders besides driver, 4¢/mile for 3 riders, 3¢/mile for 4 riders. Please dress warmly, carry rain gear, and bring a lunch.

The *Field Trip on July 15* differs from the above only in that there is no charge and no limit. Please meet in the parking lot of the House, 909 York, at 9 a.m. and enjoy a day in the hills.

Arranging Lessons Using Fresh Flowers is full. The class meets three Mondays, July 27, August 3, and August 10 from 9:30 to Noon in Classroom B. Please bring the implements as mentioned in the Summer Class Schedule.

The guest speaker at the *Horticultural Therapy Workshop*, July 30, is Mona L. Dwork. Ms. Dwork, of Friends Hospital (psychiatric) in Philadelphia, will enlighten us as to the therapeutic value of horticultural activities, as well as the relationship between these activities and cognitive levels of patients. An evening slide lecture will also be presented showing the use of horticultural therapy in psychiatric treatment.

(See announcement about Director's Lecture.)

In addition to Ms. Dwork, Nancy Jones, Director of Occupational Therapy at Denver's Bethesda Hospital, will present "The Enabling Interview", a unique demonstration of the process of counseling. Horticulture expert Andrew Pierce, Assistant Director of the Botanic Gardens, will discuss indoor gardening, an aspect of gardening that can be used in many different settings.

The cost of \$25.00 covers coffee break and lunch. Sign up and join the group at 9:15 a.m. in the Hall on July 30th.

Tea House Open

Because of the Independence holiday, Kim Thrasher will meet those interested in learning about our tea house on *July 11* at 10 a.m.

Help Please:

The Information Desk in the Lobby Court is manned by volunteers daily in two shifts, 10 a.m. - 1 p.m. and 1 p.m. - 4 p.m. This is an important service to the public with a side benefit of being very enjoyable. Right now we need more volunteers. If you would enjoy meeting people from all over the world, or if you'd like to get out of the house and relax in an exotic atmosphere, you are the person we need. Please call Judy Granger 424-5668 for further information.

Slide Show

On July 11 join Dr. and Mrs. William Anderson on "Five Thousand Miles on Foot in Rocky Mountain National Park." For thirty years, summer and winter, they have been hiking and filming in this lovely area. You'll see beautiful pictures of birds, animals, scenery, and lots and lots of flowers. Free and all welcome — Classroom C, 1:30 p.m.

Hemerocallis in Bloom

On July 25 from 10 a.m. to 2 p.m., members of the Hemerocallis Society will be stationed outside. Come join them, discuss the beauty of the daylilies and learn how you can grow these flowers.

Tributes

In memory of Leila Campbell Accola
Robert C. and Olga G. Accola

In memory of Mrs. Vera P. Johnson
Margaret Ballweg

In memory of Charles R. Kendrick
Mrs. J. Kernan Weckbaugh

In memory of Mrs. Pary P. Kugeler
Rodney & Charlotte Davis
Mrs. Thomas B. Knowles
Mrs. Harriett L. Rydstrom
Rev. Harry Watts
Mrs. J. Kernan Weckbaugh

Contributions of cash, goods or services have been received from the following friends:

Home Garden Club — for a bench under the hackberry tree (as a memorial to the now disbanded club)

Norma Kremer
Mrs. Marian A. Mason
Monday Forum
Swingle, Inc.

Zucchini Time

"The profit of the earth is for all; the king himself is served by the field." Ecclesiastics 5:9. If the earth is providing a few more zucchini than you can manage, try this recipe courtesy Burpee Company.

Zucchini-Tomato Variations

8 medium zucchini, sliced	1 medium onion, chopped
12 medium tomatoes, peeled,	1 tbsp. vegetable oil
cored and chopped	

Saute' onion in oil until transparent. Add tomatoes and zucchini; bring to a low boil; reduce heat and simmer about 6 to 8 minutes or until zucchini begins to turn translucent. Divide mixture into 4 equal portions and freeze separately in containers to use when needed. This can be used as is or cooked with hamburger or chicken as a tasty treat.

Welcome, New Members

Margaret Addison
Jack A. Ahnstedt
Mr. & Mrs. Robert J. Albrecht
Guy H. Albright
Grant Anderson
Dennis Anthony
Randee E. Baltz
Mr. & Mrs. James Barnes
Ms. Kari M. Barnes
Mr. & Mrs. K. T. Barrow
Elizabeth A. Bassett
Mr. & Mrs. Carl Bauer
Shirley Beebe
Mr. & Mrs. Frederick E. Berkman
Avis M. Swaney Berlin
Marilyn K. Berryman
Joseph A. Biancucci
R. W. Bilstein
Mr. & Mrs. Willard Bissell
R. E. Blackerby
Kathy Bollhoefer
Maxine Bomeke
Richard J. Bott
Rickie Boudar
Mr. & Mrs. James C. Brothers
Jean G. Brown
Shirley Browner
Varerie Byrnes
Mr. & Mrs. Doublas N. Calkin
Jean Carlson
John Cheronis
Lurrene Childs
Mrs. Geraldine A. Chrisman
Dr. Louis M. Colaiannia
Lois R. Collins
Mr. & Mrs. Stanley H. Collins
Mr. & Mrs. Stephen L. Copps
Mr. & Mrs. Jack E. Coulson
Gay & Barry Curtiss-Lusher
Frances M. A. Davies
Hugh & Charline H. Davis
W. C. & J. T. Davis
Gayle DiNicholas
L. A. & Yvonne D. Doty
James N. & Susan Dreisbach
Regina Drey
Sarah DuBois
Mrs. Barbara V. Duey
Susan F. Duff
Mr. & Mrs. Kenneth L. Dunn
Janet Dworin
Mary K. Eakins
Mrs. Gayle A. Ebel
Suzanne Edwards
Kary Erb
E. Doris Evans
Suzanne Evans
Sharlyn Fairley
Leonard R. & Corinne Fanganello
Steve Fante
Dr. & Mrs. Michael E. Fenoglio
Mrs. Mary Fera
Chris Finger
Carolyn M. Fink
James J. Flynn
Mr. & Mrs. John J. Ford
Ford C. Frick II
Florence M. Froman
Michael & Lynn Gabenski
A. Michelle Garland
John Gerlings
Fred J. & Betty Gientke
Bruce Gierke
Mr. & Mrs. Gordon Glassburn
Nancy S. Glick
Mrs. Janice Gnam

William Goodspeed
Robert H. Grandjean
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Ernest E. Heuer
Mary Hewett
Tom & Meredith Hill
Mr. & Mrs. Darrel Holmquist
John E. Holtman
W. R. Hopping
Marie Horchem
Mr. & Mrs. James R. Howard
Mr. & Mrs. Larry W. Howe
Frances E. Hudson
Anthony C. Hughes
Ms. Patricia Humphrey
Carolyn Hunka
Carol A. Ihli
Joyce Imig
Gail Iskiyan
Dayra Jensen
Janet Johns
Greg & Mary Joss
Mr. & Mrs. M. G. Kavulak
Wendy L. Kellond
George Killingsworth
Cynthia Kosarko
Roy Krug
Mrs. Elizabeth Kudalis
R. D. Lakin
Judie A. Lalanne
David A. Larson
Colleen A. Lauderman
Eileen M. Lech
Pam Leder
Paul D. Leif
Mr. & Mrs. Morris Lesser
Barbara G. Levigne
Jamet P. & Gordon E. Lewis
Charles F. Leyendecker, Sr.
Mrs. R. D. Liechty
Mr. & Mrs. Paul Lindauer
Dorothy J. Lindsey
Philomena Lomena & Family
Susan Marie Lux
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Mr. & Mrs. C. Marvin McArtor
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Jo Ann Slater
Mr. & Mrs. Richard Slezak
Erma Smith
Catherine L. Smolka
Pat & Kevin Somerville
Kristin L. Spielman
J. B. & Sharon Stone

(Continued back page)

Calendar of Events



July 1981

- 1)* 4:00 p.m. D.B.G. House — Dining Room
- 2)* 6:00 p.m. D.B.G. House — Main Room
- 3) All Day

- 7)* 1:00 p.m. D.B.G. House — Dining Room
- 7)* 7:30 p.m. Education Building — Classroom B
- 8) 9:00 a.m. Education Building — Mitchell Hall
(This Exhibition will run daily through July 28)
- 8)* 12:00 noon D.B.G. House — Dining Room
- 8)* 6:30 p.m. Education Building — Classroom A
- 8) 7:30 p.m. Education Building — Mitchell Hall

- 9)* 10:00 a.m. D.B.G. House — Main Room
- 10) 7:30 p.m. D.B.G. House — Main Room
- 11)* 9:00 a.m. Education Building — Classroom B

- 11) 1:30 p.m. Education Building — Classroom C

- 12)* 12:00 noon Education Building — Mitchell Hall
- 12) 8:00-4:00 D.B.G. House — Main Room

- 13) 7:30 p.m. Education Building — Mitchell Hall
- 14)* 12:00 noon Education Building — Herbarium
- 14)* 4:00 p.m. D.B.G. House — Dining Room
- 16)* 12:00 noon Education Building — Mitchell Hall
- 16)* 6:00 p.m. Education Building — Classroom B
- 17) 9:30 a.m. Education Building — Classroom B
- 17) 7:30 p.m. Education Building — Herbarium
- 18)* 9:00 a.m. Education Building — Classroom B
- 19)* 9:00 a.m. Education Building — Classroom B

- 21)* 6:00-8:00 Outdoor Amphitheater
- 21)* 7:30 p.m. Education Building — Classroom B
- 23)* 3:00 p.m. D.B.G. House — Dining Room
- 23)* 5:30 p.m. Education Building — Mitchell Hall
- 23)* 6:00 p.m. Education Building — Classroom B
- 23)* 7:30 p.m. D.B.G. House — Main Room

- 27)* 9:00 a.m. Education Building — Classroom B

- 28)* 12:00 noon Education Building — Herbarium
- 28)* 4:00 p.m. D.B.G. House — Main Room
- 29)* 6:30 p.m. Education Building — Classroom A
- 30)* 9:15-4:00 Education Building — Mitchell Hall

- 30)* 6:00 p.m. D.B.G. House — Main Room
- 30)* 8:00 p.m. Education Building — Mitchell Hall

AUGUST 1981

- 3)* 9:00 a.m. Education Building — Classroom B

- 3)* 7:30 p.m. Education Building — Mitchell Hall
- 4)* 1:00 p.m. D.B.G. House — Dining Room
- 4)* 6:00 p.m. D.B.G. House — Main Room

Planning Committee Meeting
D.B.G. Interns — Plant Records
INDEPENDENCE DAY HOLIDAY

Editorial Committee Meeting
Denver Bonsai Club
Colorado Watercolor Society Exhibition
(This Exhibition will run daily through July 28)
Development & P. R. Committee Meeting
“Herbs” — Gloria Falkenberg
U. S. Forest Service Public Hearing —
Oh-be-Joyful Wilderness Area, Gunnison
The Associates Board Meeting
Denver Dahlia Society
“Flower Arranging” — Joan Franson
Learning for Living—Metro State College
Film: “5,000 Miles in Rocky Mountain Park” —
Dr. & Mrs. William H. Anderson
Judges Reception — Colorado Watercolor Society
Miniature Rose Show — Denver Rose Society

Colorado Mycological Society
Herbarium Committee Meeting
Executive Committee Meeting
American Horticultural Society Luncheon
Summer Interns — Bonsai
Potpourri Workshop
Denver Botany Club
Judging School — Ultra Violet Society
Judging School — Ultra Violet Society

“Summer Serendipity”
Denver Bonsai Club
Horticulture Advisory Committee Meeting
Executive Women’s International
Summer Interns — Annuals & Bed Designs
Men’s Garden Club of Denver

“Arranging Lessons Using Fresh Flowers” —
Mrs. Avalonne Kosanke
Herbarium Committee Meeting
Board of Trustees Meeting
“Food Preservation”
Horticulture Therapy Workshop —
Lynn Hershock, John Brett
Summer Interns
Directors Invited Lecture Series — “Horticulture
Therapy in a Private Psychiatric Hospital” —
Mona Dwork

“Arranging Lessons Using Fresh Flowers” —
Mrs. Avalonne Kosanke
Denver Symphony Association
Editorial Committee Meeting
Summer Interns

CALENDAR OF EVENTS FOR JULY (Continued)

- 4)* 7:00 p.m. Education Building — Classroom A
- 4)* 7:30 p.m. Education Building — Classroom B
- 5)* 4:00 p.m. D.B.G. House — Dining Room
- 6)* 6:00 p.m. Education Building — Classroom B
- 6)* 7:00 p.m. Education Building — Classroom A
- 8)* 9:00 a.m. Education Building — Classroom A
- 8) 1:30 p.m. Education Building — Classroom C

**Members or Enrollees only*

“Small Space Gardening” — John Brett
Denver Bonsai Club
Planning Committee Meeting
Summer Interns — Evolution
“Small Space Gardening” — Elise Huggins
“Small Space Gardening” — Elise Huggins
Slides by Gabe Gabrielson

GARDENING TIPS FOR JULY

According to the weather bureau this has been a year of broken records as far as vagaries of weather are concerned. The mild April, followed by the cool, wet May, and the violent storms in early June brought out some problems in the garden that may well also break some records.

I don't remember a year where powdery mildew was so prevalent in apple trees. As if the mildew damage wasn't enough, fireblight has almost eliminated the possibility of fruit on many of the trees. This is one of the consequences we pay when we have a good flowering year, but at the same time, cool moist conditions are conducive to development of diseases.

It seems like everyone who has a sycamore also had defoliation and dieback as a result of anthracnose. This organism, a fungus, seems to have the ability to lay in wait in the form of twig cankers until just the right moisture and temperature conditions occur. Until it warmed up in early June, those conditions were ideal for this disease. Anthracnose has been known to defoliate sycamores more than once in a year. If we have conditions of high humidity and afternoon thunder storms during the summer months, we can expect to see this disease occurring again. Unfortunately, treatment of large trees with fungicides is almost out of the question because of costs. If you have small trees and can apply zineb, it may be worth it to protect them from further attack by this fungus. There is no point, however, in applying the fungicide unless we have conditions of high humidity.

The mild winter has continued to bring out problems that are probably records for this year. Apparently the mild conditions allowed many types of overwintering moths to survive in high numbers. In early spring we were met with fairly high concentrations of sod webworm, as well as army worm. It seems that the greater concern, however, were all of the moths flying around inside the house during the month of June. Perhaps you also noticed a rather beautiful moth that resembles at first glance, the humming bird going from flower to flower. This is the White Lined Sphinx Moth that later turns into a hornworm similar to the one we find on tomatoes. This particular insect, however, seems to have a wide range of hosts, including elm, portulaca, the rubbery weed in the garden purslane, currants and gooseberries. You might watch for a green worm with a threatening-looking horn on its tail, feeding on your trees and shrubs.

Speaking of hornworm, watch your tomatoes closely because it is likely that populations of this pest will also be high. The adult of this worm is also a humming bird moth emerging from a pupa that spends the winter in the soil. In

severe winters many of them perish but it is likely that a high proportion survived this past winter. Good results for the control of hornworm have been obtained using Thuricide which is a suspension of a bacterium that can also be obtained by other names such as Dipel or Biotrol. If you don't mind using a chemical pesticide, Sevin does a good job too.

By now you're probably fighting weeds and almost everyone has had to contend with at one time or another, field bindweed, sometimes called Wild Morning Glory. A chemical now available in any garden center containing glyphosate (Round Up) will do the best job at this time of year — also available under the Ortho brand name of Kleenup. Keep in mind that this chemical will kill or damage any green foliage on which it is applied so it can only be applied as a spot treatment. Because it has no soil residue, it can be used safely in an area where you wish to replant even a week after weed control application. I find it the best chemical control for perennial grassy weeds.

Now is a good time to do some replanting of your spring-flowering perennials. If your iris have gotten a little bit crowded, or for that matter, shasta daisies, delphinium or any other perennials that bloom in early spring, you can safely move them now with a promise that they will bloom again next spring. Wait until the foliage has started to look ragged and begins to die back a little bit, then cut the top back, leaving some foliage at the base. Dig them, separate them, discarding any diseased roots or in the case of iris, discard the rhizomes that had blooms on them this spring. If you are wanting to keep the varieties of iris separated, take a permanent type marking pen (felt tipped), write the variety name directly on one of the leaf blades, after having cut the tops back about 50%. Then you can proceed to move them without mixing up the varieties or colors.

Digging your perennials now also gives you the opportunity of weeding out some of the hard-to-get-at grasses that tend to creep into the clumps. During the moving process, I find it best to take the clumps that I've dug and stick them into a bucket of water. This is then followed by dividing and replanting. After planting, shade the clumps with a shade cloth or place a piece of shingle on the south side. A week or so after the shading can be removed and the plants will be well on their way to establishment and another spring of bloom.

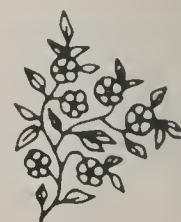
Don't be tempted to dig and divide fall-blooming perennials such as chrysanthemum and aster. Fall-blooming perennials are best divided in spring.

With all the weather records being broken this year, let's hope that July is not one of the hottest months. Happy Gardening!

Dr. J. R. Feucht



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$15.00 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 10th of each month preceding publication. Editor — Margaret Sikes, 575-2547.



New Members (cont'd)

Bonnie L. Strafface
John C. & Marie Straub
Robert C. Swenson
Harold D. Taylor
Susan E. Tylor
Carol J. Thomas
Cheryl L. Thompson
Susan M. Thompson
Michael J. Timmer
Cecilia & Donald Tucker
Stephanie B. Urban
R. David Van Treuren
Mr. & Mrs. Richard L. Vermeys
Mr. & Mrs. John Victorine

Micaela J. Vining
Mary & Joseph Virgona
Vitolo & Associates, Inc.
Tim Vreeland
Karen Webster
Gale S. & Barbara Weeding
Kathryn L. Wendell
Mr. & Mrs. Grant V. Wickard
Trisha A. Wilkerson
Barbara Williams
Sara L. Williams
Mrs. Martima Yarnall
Thomas J. Yohn
David A. Zimmerman



"Zion Country" by Ora E. King

Colorado Watercolor Society Show John C. Mitchell Hall, July 8-28

Botany Club, July 17, 7:30 p.m.

This meeting is scheduled in the Herbarium. Please bring plants to identify.

Denver Botanic Gardens, Inc.
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TIME VALUE



July 1981

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Around and About The Gardens

When much of the rest of the Botanic Gardens is closed and inactive the Community Gardens is alive with activity. The Community Gardens is a highly visible but relatively unknown facet of the Botanic Gardens.

Begun in the early 1960s as a children's garden it evolved in 1977-78 to its current status of a family oriented gardening program. It occupies approximately 1½ acres with a total of 139 plots on two sites. Plans to expand the gardens include additional community garden plots and the development of a Horticultural Therapy Demonstration Garden.

The program is based on a first come, first serve basis with registration beginning in January (no names are taken before then) which continues until the plots are all spoken for, usually late February. The nominal fee charged covers seeds, bedding plants, water, compost and educational material.

In line with the Denver Botanic Gardens statement of purpose the Community Gardens is intended to be an educational opportunity as well as one of gardening. Classes are held on basic vegetable gardening techniques before outside gardening begins, a gardening handbook is provided and seminars are held throughout the summer on topics of interest and value to the gardeners.

Most important though is the opportunity provided many people to vegetable garden who would ordinarily not have the option. Many of the people are apartment or condominium dwellers or live in houses on small urban lots dominated by large shade trees. To most the growing of fresh vegetables is the main reason for gardening but to many the reasons are less tangible. For some it's a chance to be outside and unwind after a 'day in the office', for others it's a retirement activity and for some it's just plain fun, getting out and doing something different.

Community gardening isn't specific to the Botanic Gardens but is a national phenomenon. Denver Botanic Gardens in conjunction with the American Community Gardening Association (ACGA), a new organization, is sponsoring a regional community gardening conference in late August of this year. Further details will be available in the August newsletter.

John Brett

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LIBRARY LINES

VOL. 4 - NO. 3
JULY 1981

A BIMONTHLY NEWSLETTER OF THE HELEN FOWLER LIBRARY OF DENVER BOTANIC GARDENS

THE 1981 USED BOOK SALE

If devotion, endurance and dedication were used to measure success, the book sale profit would be phenomenal. These virtues were rewarded this year by amounts larger than last year, allowing library purchases to be made above the inflationary base, to continue the accession of botanical and horticultural materials to meet the needs of all our patrons. Sincere thanks to all the volunteers who worked so hard to accomplish this purpose under the leadership of Susan Coombe and Kathy Fletcher.

Jacobs, Betty E. M. GROWING AND USING HERBS SUCCESSFULLY. Charlotte, Vermont, Garden Way Publishing. 1981. \$6.95.

This author "debunks" the idea that herbs are hard to grow or need special handling. Not only are they easy to grow, but a very small garden plot is enough to grow all you are likely to want. Whether you grow herbs for profit or just for fun, this book will tell you how.

In the first chapter are listed thirty two herbs with all the horticultural data needed to know how to grow them. Following is a list of the many uses for these herbs. The second chapter has thirty two more listed. Further on in the book there is advice about how to prepare the soil, how to prevent insect damage, how to dry the plants and market them. The uses of herbs are many and chances to realize a profit from them, varied.

Hazel Kellogg

Stokes, Donald W. THE NATURAL HISTORY OF WILD SHRUBS AND VINES. New York, Harper and Row. 1981. \$16.95.

This book is limited to shrubs and vines of Eastern and Central North America, many of which are not found in our area, but it is a book with charm and personality. The author makes you feel as if you were taking a walk with him, observing and asking questions, and seeking the answer by your own observation. His language is simple and the observations natural. The line drawings by Deborah Prince Smith are carefully done in great detail. This is a book that one can read just for fun and get a lot of information too.

H. K.

Swain, Roger B. EARTHLY PLEASURES. New York, Charles Scribner's Sons, 1981. \$10.95.
SB 455.3 S8355.

The title of this book is well chosen as it surely does provide a lot of pleasure as well as a wealth of information.

This author is an expert at using an unique method of introducing each new topic with a simple narrative or an observation from his own garden or community, then enlarging his area of discussion by listing many interesting related facts, interspersed with fragments of his living philosophy and bits of his delightful humor. Thus he demonstrates the interrelation of all aspects of life in a most fascinating manner. His outlook on life is more cheerful than many people are maintaining at this time, with suggestions for even better use of our natural surroundings. He has indeed proved himself a gifted writer with a message to proclaim.

To enhance further the attractiveness of this book, the hand drawn illustrations by Laszo Kubinyi are true works of art, befitting an unusually fine piece of literature.

I suggest that by reading this book one may become a more enthusiastic observer of natural phenomena with a better appreciation of the importance of what is taking place.

H.K.

Altmann, Horst. POISONOUS PLANTS AND ANIMALS. London, Chatto and Windus. 1980. \$5.95.

No one can doubt the importance of knowing which of our plants and animals may be harmful, especially where children are involved. This book would be useful for people living or traveling in Europe where it was produced and for whom it was designed. The color photographs are beautifully done, the descriptions most helpful in identifying the plant or animal, and the list of effects on the victim and method of treatment very important. It has the added advantage of being small enough to slip into one's pocket when on an outing.

H.K.

Harz, Kurt. TREES AND SHRUBS. London, Chatto and Windus. 1980. \$5.95

Though obviously not intended for use in our geographical area, and not claiming to be a complete guide for Europe, a book of this type has its place in our system. Though of pocket book size, this book packs a lot of information. A small volume can offer a lot of pleasure to people who just want to know the names of species but do not aspire to becoming expert. To the novice who may have aspirations, it is a good place to begin. The introduction and key to genera call attention to what one must observe to be able to classify a species,

and the pictures are very helpful. This could be a valuable book for the right person.

H.K.

Hill, Lewis. SUCCESSFUL COLD-CLIMATE GARDENING. Battlesboro, Vermont. The Stephen Green Press. 1981. \$9.95.

Lewis Hill has been a professional orchardist and nurseryman in Vermont for 30 years, and should have enough experience to give advice. But sometimes it is necessary to know people too in order to convince the skeptics and advise the ones who are not necessarily seeking advice. Lewis Hill has that ability too.

Mr. Hill starts by emphasizing the importance of choosing the right plants for the area, and choosing plants that have been grown in that area. His many instructions on how to cope with severe weather, how to lengthen the growing season, how to make the best use of heat from the sun, how to prepare the soil, how to control weeds, disease and insect pests are some of the topics discussed. There are 300 pages packed full of information and suggestions, some of which can be applied to our area, especially the higher elevations.

H. K.

Crockett, James Underwood. CROCKETT'S FLOWER GARDEN. Boston. Little, Brown and Company. 1981. \$14.95.

This is the third in a series that started with "Crockett's Victory Garden" which dealt mostly with vegetables, then "Crockett's Indoor Garden" which dealt with house plants, and now the final one which deals with flower gardens. There will be no more as James Crockett did not live to complete this one, but left it sufficiently planned that his assistant, Marjorie Walters, could arrange for its completion.

The book has a section for each of the nine months of the year starting with February and going through October, then a final chapter entitled "After Frost." Thus he could indicate what needed to be done each month in order to get the most for his efforts. In each month he gives complete instructions on how to plant and take care of plants selected for special care that month. Several essays are included in the book giving general information on plant propagation. The final chapter deals with such subjects as clearing the garden, mulching, building a composter, and other ways of preparing for the coming year.

The book is beautifully illustrated with many color photographs and drawings to illustrate directions.

H. K.

Thomas, Bill. THE ISLAND. New York. W. W. Norton and Company. 1980. \$29.95.

One may associate an island with wilderness and solitude, but that is not true in all cases. Each island is individual with a personality of its own. There are many ways in which an island can be formed and many ways in which it is constantly changing. An island may also be killed.

This author has made an extensive study of the islands that ring our continent from the far north to the extreme south, and along both coasts. He has researched the history, studied not only contemporary life but also many archaeological digs revealing past life of islands. He is an expert photographer who has produced a beautiful book worthy of attention.

H. K.

Schumann, Donna N. LIVING WITH PLANTS, A Guide to Practical Botany. Eureka, California. Mad River Press Inc. 1980. \$11.80.

In its approach, this paperback emphasizes equally the "practical" and "botany" in the subtitle. The author, professor of biology at Western Michigan University, is a scientist as well as an enthusiastic and well-recognized gardener with a knack for translating basic scientific information into very understandable language. The copious illustrations, both diagrammatic and photographic, aid in that understanding. Especially interesting are the humorous analogies used to illustrate some of the complex physiological processes of plants.

Included also are many tables with concise information for the gardener on such topics as plant nutrients and soil management; insect and disease control; soil, water and light requirements for the houseplants; lists of plants for specific conditions from houseplants to vegetables to annuals, perennials and trees and shrubs. There are sections on propagation, pruning and landscaping.

The book contains a glossary of botanical terms and a detailed table of contents but a limited index. The rather extensive bibliography has listings annotated and arranged under topics of interest to the botanist, the horticulturist, the landscaper or the backyard gardener.

Velma Richards

Green Thumb Newsletter



Number 81-8

August 1981

HERE'S YOUR CHANCE TO MEET THE EXPERTS!

A "Summer Stroll" for members only will be held on August 27th from 6-8 p.m. in the outside gardens.

Featured areas of the gardens will have experts available to answer questions about their own area of expertise.

Admission to the stroll is your membership card or this newsletter.

Come let the gardens show you their best colors of the season!

Annual Mushroom Fair

Wild mushrooms of Colorado, both for study and as a nutritious food source, will be the feature of the sixth annual Mushroom Fair of the Colorado Mycological Society. It will be held at Denver Botanic Gardens, 1005 York St., Denver, on Sunday, August 23, from 11 a.m. to 5 p.m.

"This is our once-a-year effort to share with the public our enthusiasm for the fascinating fungi called mushrooms," explained Linnea Gillman, president of the mushroom society and, until recently, biologist for the U.S. Forest Service in this area.

"People who have seen mushrooms only at the supermarket may think that 'a mushroom is a mushroom' and do not realize that there are literally thousands of wild varieties, many delicious to eat and a few that are classed as toxic," Mrs. Gillman said.

Members of the public are invited to bring specimens they have found to the fair to have them identified by Dr. Alexander Smith of the University of Michigan, an international authority on the subject and author of numerous books. Dr. Smith will be assisted by a staff of local experts.

Specimens collected by the public should be wrapped in waxed paper (never in plastic) immediately after picking and should be refrigerated until brought to the fair, it was explained.

As announced by Marilyn Greb, chairman of the fair, it will include color slide shows and photographs, natural habitat displays, cooking suggestions, commercial mushroom information, mushroom related arts and crafts, mushroom books, and an informational booth by the Rocky Mountain Poison Center, a national resource located in Denver.

Admission to the fair will be \$1.50 for those 16 to 65 years of age, 50¢ for seniors of 65 years and over as well as for children 7 through 15 years, and no charge for children 6 and under.

Denver Artist Guild Show and Sale
August 14, 15, 16 - 9 to 4 p.m.
John C. Mitchell Hall

Director's Invited Lecture Series

All of us will have an opportunity to hear one of the principal speakers of the ACGA conference, Dr. Roger Welsch. He will speak at the Homer Grout Theatre of the Houston Fine Arts Center of Colorado Women's College on August 28 at 7:15 p.m.

Dr. Welsch, a member of the English Department of the University of Nebraska, will present a program entitled "Humor on the Frontier." In song and story he will explain how the pioneers used humor to overcome their handicaps. This program is especially suitable for families so we hope many of our members will plan to join us. (The Houston Fine Arts Center is the large building north of Montview Blvd. Ample parking is provided to the north of the Center and you may enter the lot off of Oneida or Quebec Streets.)

The cost will be \$2 per adult, 50¢ per child, payable in advance or at the door of the Grout Theatre. Participants at the conference may attend the lecture at no additional charge.



Dr. Roger Welsch

Lecture on Rare Plant Nursery

Anyone who has wondered where some of the unusual plants growing in the Rock Alpine Garden originated will want to hear Baldassare Mineo on Wednesday, August 19, at 7:30 in Mitchell Hall. Baldassare is co-owner of Siskiyou Rare Plant Nursery in Medford, Oregon, which maintains a stock of over a thousand alpine and rock garden plants. These are sold nationwide on a mail-order basis, and connoisseurs of rare, hardy plants have considered the Siskiyou Rare Plant Nursery to be the finest source of unusual plant material in North America for the last two decades. Baldassare will show slides of Siskiyou's greenhouses, cold-frames and acre-rock garden where stock plants are maintained. He will also show slides from the nearby mountains which are the nursery's namesake: the Siskiyou Mountains are the largest relictuary of many unusual plants which were obliterated elsewhere in the Western United States by Pleistocene Glaciation: Siskiyou Rare Plant Nursery has been the only source for nursery grown *Lewisia cotyledon* and a host of other Siskiyou endemics, not to mention hundreds of Himalayan, Alpine and even Rocky Mountain plants!

Around and About the Gardens — August

It was a difficult assignment indeed to choose the most exciting aspect of what is perhaps the most exciting new facet of Denver's Botanic Gardens, the Rock Alpine Garden. This masterpiece of technical and artistic design truly offers something for everyone. Within its confines one can observe millions of years of geologic time in the five distinctive rock types. These are meticulously placed to complement not only one another, but also the more than 3,000 plant taxa collected from around the world and representing thousands of years of evolutionary history. One is conscious not only of the spanning of time within this garden, but of a great diversity of microenvironments as well. These microenvironments reflect all of the major ecological zones present in Colorado from high alpine tundra down through krummholz, subalpine, montane, foothill and finally, high plains where most of us make our homes.

It is the high plains region which is perhaps least conspicuously represented within the Rock Alpine Garden and therefore, the one about which I finally chose to write. After all, much of our lives are spent in this zone which most of us really know very little about. Until recently, we have spent most of our gardening efforts trying to convert this already successful and naturally beautiful area into something else. As you walk through the garden, you may (or may not) notice a small, flat, very dry looking bed with a sparse planting of very healthy looking plants in a baked Bentonite clay soil. If it doesn't jump out at you, just look around a bit because it may not look like much now, but in a couple of years I venture to say it's going to be one of the most pleasing and interesting displays around.

The plants growing in this seemingly inhospitable soil and climate have spent many years evolving clever mechanisms for dealing with water deficit problems. Some of these include small leaf size, "fuzziness", reduction in internal leaf surface, and lighter, bluer foliage. These characteristics facilitate more efficient dissipation of radiant energy, and serve to reduce transpiration losses. The advantage to the plants is obvious, but there is something in it for us as well. Those qualities which impart survival to the plants of semi-arid environments offer a great variety of color and texture for our own enjoyment, with the added benefits of low water requirements and natural adaptation to hard clay soils.

Come take a look at this interesting young garden, which already sports a number of *Penstemons*, *Oenotheras*, *Artemisia*, and "fuzzy-leaved" *Helichrysum* and *Antennaria*. Watch it grow over the next two years and see if it doesn't spark some ideas for your own high plains environment.

Tamara Naumann
Summer Intern (Colorado State University)

Free Slide Show

Beautiful slides of wild flowers will be shown on August 8 at 1:30 p.m. in Classroom C. Gabe Gabrielson's pictures are guaranteed to encourage all of us to enjoy Colorado in the summer! Free and all welcome.

Special in the Gift Shop

Limited editions of Fairy Flowers Plates from Germany are now available in the Gift Shop. These beautiful collector items feature such charming creatures as the Sweet Pea Fairy, the Lavender Fairy, and the Apple Blossom Fairy. The artist, Cecile M. Barker, also has books to complement the plates. Come and see.

Community Gardening in the Rocky Mountains

The Rocky Mountain Region of the American Community Gardening Association (ACGA) and the Denver Botanic Gardens will present a conference on "Community Gardening in the Rocky Mountains" on August 27-28.

This conference is not only for those who have an involvement in community gardening, but also for those who would like to get involved. Topics covered will be applicable to and will benefit a wide variety of individuals, including garden coordinators, teachers, community leaders, gardeners, and cooperative extension people.

Come join us for lively discussions, work shops (hands-on), and interesting speakers on stimulating topics. For more information, call or write Denver Botanic Gardens, 909 York Street, Denver 80206 or 575-2547, attn: John Brett.

Community Garden Exhibition Aug. 8, 1-4 p.m. - Aug. 9, 10-4 p.m. John C. Mitchell Hall

This harvest show by members of the Community Gardens will show what they have grown in plots at the Denver Botanic Gardens. Come see these prize winning vegetables and flowers.



Wright-Ingraham Institute To Hold Seminars

The Wright-Ingraham Institute will hold a summer program of weekend seminars to encourage public discussion concerning topics and issues of regional interest. Seminars ranging from Natural Disasters on the High Plains to Rural Revitalization in Small Towns will be held on the Institute's Richard T. Parker Center for Advanced Study and Research, a 640 acre mixed grass prairie reserve in Elbert County. There is no charge.

The weekly Sunday sessions, to begin at 1:00, are as follows:

Aug. 2	Appropriate Technology: Solar and Wind
Aug. 11	Astronomy: Perseid Meteor Shower (tentative date). Exact date to be announced. Seminar will begin at 8 p.m.
Aug. 16	Pest Management: Pest Control
Aug. 23	Water Law: Aquifers and Ground Water
Aug. 30	History: Trails, Culture and Artifacts
Sept. 6	Pollution: Acid Rain
Sept. 13	Wildlife: Wildlife Protection
Sept. 20	Growth Management: Growth on the Front Range
Sept. 27	Rural Revitalization: Small Towns

Welcome New Members

Velda M. Acott
William M. Adkisson & Family
Thomas B. Albershart
Mr. & Mrs. Craig Ambler
Mr. & Mrs. David F. Anderson
Mr. & Mrs. Donald R. Anderson
Mildred J. Anderson
Mr. & Mrs. A. Gordon Appell
Mr. & Mrs. Lee C. Ashley
Billie Cherie Auble
C. L. Barker
Mr. & Mrs. P. L. Bauer
Terry Bauman
Meredith J. Bauman
Mr. & Mrs. Gary A. Benedict
Mr. & Mrs. Raymond O. Bennington
James L. Benson
Duane I. Berkey
Arthur H. Bernstone
Anna F. Bettelheim
Mr. & Mrs. Surjit S. Bhala
Dr. Jane L. Bilett
Linda Bomske
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Jane Burns
John Calder
Mr. & Mrs. Howard H. Callaway
Mr. & Mrs. Burton L. Carlson
Emma W. Carlson
Mr. & Mrs. E. Dederick Carrasco
Don Case
Mr. & Mrs. John R. Condrey, Jr.
Kenneth & Norma Casey
Margaret Clemes
Anna R. Condit
Mrs. Walt Coombe
Helen Costello
Betty P. Davey
Ruth Mae DeBoer
Maxine L. Doner
James H. Doolittle
Marsha Helen Dougherty
Betty Law Dunklee
Mary Lou Egan
Anna Einwiller
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Mr. & Mrs. John C. Gonder
Elsie F. Goossen
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Berdine R. Green
Mr. & Mrs. Charles A. Green
Donna Green
Mr. & Mrs. Charles V. Guy
Jean P. Guyton
Rubye P. Haller
Jean M. Hamm
Steve Hann
Richard Hansen
Dale Hardin
Florence Hargis
Charles P. Harmon

Mr. & Mrs. Richard W. Headstrom
Mrs. Ruth M. Hezlep
Helyn M. Hodge
Debra Horen
Mr. & Mrs. John C. Huglin
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Mr. & Mrs. J. J. Jehorek
Mr. & Mrs. Daniel W. Jewett
Elizabeth Johnson
Mrs. Marjorie B. Jump
Mr. & Mrs. Nick S. Kaluk, Jr.
Goldie Keehn
Sharon Ketchum
Dr. & Mrs. Larry C. Kier
Mrs. Emmamay King
Mr. & Mrs. Robert M. Krone
Anne S. Lamb
Carol Lee
Mr. & Mrs. Robert E. Lee
Alida C. Lenox
Mr. & Mrs. Richard D. Liebling
Clarence Lohman, Jr.
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David & Janet MacKenzie
The MacKinnon Family
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M. Marks
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Miner & Karen Raymond
Helen Reed
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Mrs. Evvy Trudgeon
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Carole A. Tyer
Mr. & Mrs. David E. Vanderburgh
Mr. & Mrs. Santos C. Vega
Joyce D. Walker
Mr. & Mrs. Ronald L. Wanner
Roger Whitsell
Evelyn Wickerink
Mary Ellen Wiggins
Mark A. Wiley
Leona M. Wilson
Mr. & Mrs. Marvin Wolf
Roger & Lana Young
Marianne Zmuda



Calendar of Events



August 1981

- 3)* 9:00 a.m. Education Building — Classroom B
- 3)* 7:30 p.m. Education Building — Mitchell Hall
- 4)* 7:00 p.m. Education Building — Classroom A
- 4)* 7:30 p.m. Education Building — Classroom B
- 5)* 4:00 p.m. D.B.G. House — Dining Room
- 6)* 7:00 p.m. Education Building — Classroom A
- 8)* 9:00 a.m. Education Building — Classroom A
- 8) 1:00-4:00 Education Building — Mitchell Hall
- 8) 1:30 p.m. Education Building — Classroom C
- 9) 10:00-4:00 Education Building — Mitchell Hall
- 10)* 9:00 a.m. Education Building — Classroom B
- 10) 7:30 p.m. Education Building — Mitchell Hall
- 11)* 9:30 a.m. Education Building — Classroom B
- 11)* 12:00 noon Education Building — Herbarium
- 11)* 4:00 p.m. D.B.G. House — Dining Room
- 12)* 12:00 noon D.B.G. House — Dining Room
- 12)* 3:30 p.m. D.B.G. House — Dining Room
- 13) 4:45-8:00 Outside Gardens
- 13) 7:30 p.m. D.B.G. House — Main Room
- 14) 9:00-4:45 Education Building — Mitchell Hall
- 14) 7:30 p.m. D.B.G. House — Main Room
- 15) 9:00-4:45 Education Building — Mitchell Hall
- 16) 9:00-4:45 Education Building — Mitchell Hall
- 18)* 12:00 noon D.B.G. House — Dining Room
- 18)* 6:30 p.m. Education Building — Classroom A
- 18) 7:30 p.m. Education Building — Classroom B
- 19) 7:30 p.m. Education Building — Mitchell Hall
- 20) 4:00 p.m. D.B.G. House — Dining Room
- 21)* 9:30 a.m. Education Building — Classroom B
- 21) 7:30 p.m. Education Building — Herbarium
- 23) 11:00-5:00 Education Building — Mitchell Hall
- 25)* 12:00 noon Education Building — Herbarium
- 27)* 12:00-6:00 Education Building — Classroom C
- 27)* 3:00 p.m. D.B.G. House — Dining Room
- 27)* 6:00-8:00 Outside Gardens
- 27) 7:30 p.m. D.B.G. House — Main Room

SEPTEMBER 1981

- 1)* 10:00-12:00 Education Building — Prep Room
- 1)* 1:00 p.m. D.B.G. House — Dining Room
- 1)* 7:30 p.m. Education Building — Classroom B
- 2)* 4:00 p.m. D.B.G. House — Dining Room
- 3)* 9:00-11:00 Education Building — Classroom C

- “Arranging Lessons Using Fresh Flowers” —
Mrs. Avalonne Kosanke
- Denver Symphony Association
- “Small Space Gardening” — John Brett
- Denver Bonsai Club
- Planning Committee Meeting
- “Small Space Gardening” — John Brett
- “Small Space Gardening” — John Brett
- Community Gardens Exhibition
- Slides: “Colorado Wildflowers” —
Mr. Gabe Gabrielson
- Community Gardens Exhibition
- “Arranging Lessons Using Fresh Flowers” —
Mrs. Avalonne Kosanke
- Colorado Mycological Society
- “Canning & Freezing Garden Produce” —
Ms. Jackie Andersen
- Herbarium Committee Meeting
- Executive Committee Meeting
- Development & P. R. Committee Meeting
- Horticulture Advisory Sub-Committee for Chatfield
- OPEN TO PUBLIC
- Denver Rose Society
- Denver Artists Guild Show & Sale
- Denver Dahlia Society
- Denver Artists Guild Show & Sale
- Denver Artists Guild Show & Sale
- Membership Committee Meeting
- “Exotics” — John Brett
- Denver Bonsai Club
- American Rock Garden Society —
Lecture on Rare Plant Nursery
- Chatfield Committee Meeting
- Potpourri Workshop
- Denver Botany Club
- Colorado Mycological Society Exhibition —
“Mushroom Fair”
- Herbarium Committee Meeting
- Community Garden Conference
- Horticulture Advisory Committee Meeting
- MEMBERS EVENING STROLL
- Men’s Garden Club of Denver

- “Romance of Herbs — Cuisine & History” —
Judith Fine-Sarachielli
- Editorial Committee Meeting
- Denver Bonsai Club
- Planning Committee Meeting
- “Designing Annual Beds” — Gayle Weinstein

CALENDAR OF EVENTS FOR AUGUST (Continued)

- | | | |
|-----|------------|------------------------------------|
| 3)* | 9:30 a.m. | D.B.G. House — Main Room |
| 3)* | 7:45 p.m. | Education Building — Mitchell Hall |
| 4)* | 11:00 a.m. | D.B.G. House — Main Room |
| 5) | 9:30 a.m. | Education Building — Classroom B |

Central District Presidents' Council
Denver Orchid Society
Civic Garden Club
Gloxinia Gesneriad Growers

*MEMBERS OR ENROLLEES ONLY

Gardening Tips for August

Vagaries of weather continue to be a problem that is having profound effects on gardening and general landscape plants. Last month we discussed the effects of the prolonged dry winter followed by the wet May. Winter drought continues to show up in the form of die-back in trees or, in some cases, a general yellowing of foliage. Cottonwoods, willows and some soft maples seem to be hit the worst although there is still decline showing up in European White Birch.

The tornado-spawning conditions in June and early July bringing about high humidity along with hot temperatures have been conducive to many diseases rarely if ever seen in this area. If fireblight wasn't enough to weaken and disfigure crabapples, the downy mildew was. Hopa crab and similar varieties have been affected the most. Unfortunately, most mildew controls such as Benlate have done little to arrest the problem and by now, most damage has been done.

Winter drought stress for the past two winters and probably even longer, seems to be taking its toll on the much over-planted honeylocust. Die-back in this tree has been very common this summer. Perhaps more serious than the die-back are the secondary problems associated with it. Root rot and a fungus called *Thyronectria* which causes a canker in the trunk of the tree are becoming alarmingly common. The problem is serious enough to warrant a study recently launched by Dr. William Jacobi, C.S.U. Forest Pathologist. The canker disease is little understood at this point. It is not certain how the disease travels from tree-to-tree nor how it moves once in the tree. It is fairly certain that the organism is successful only in trees weakened from stress such as drought and that it enters the tree through wounds such as from pruning or "lawnmoweritis". In examining many trees with the disease in various parts of Denver, nearly every case showed entry through careless mechanical damage to the trunk from lawnmowers or weedeater devices.

Thyronectria disease is usually fatal to the tree because the symptoms do not show up until too late. If you have honeylocust showing die-back from the top and, in addition, bark is sloughing off from around the base or around wounds, you *may* have the disease. C.S.U. is trying to conduct a survey to determine the severity of the situation and distribution of the disease. If you think your tree has the disease, please call Dr. Jim Feucht (Foyt) at 355-8306.

Insects have been plentiful this year. August is the time to look closely at your tomatoes for signs of the tomato horn worm. Pick them off by hand or try Thuricide, a biological control. Carbaryl (sevin) is also effective and can be used one day prior to harvest of the tomatoes.

Spider mites are likely to be heavy now. Check especially your evergreens. The easiest way to check is to hold a piece of white paper beneath a branch and tap the branch sharply. The mites that fall on the paper will be easy to see. Light infestations can be kept in check using a forceful spray of water containing a small amount of detergent. You may also be able to obtain a new "insecticidal soap" for the same purpose. Denver Botanic Gardens is testing this soap this year. Hopefully, results will be available by next season. Kelthane is also a good miticide but if used on edible crops requires a waiting period as indicated on the label.

August is the time when it is a good idea to try to slow down the growth of woody plants by *gradually* stretching out the periods between waterings. This tends to help the plant harden-off for winter. This *does not* mean that you should allow your trees and shrubs to go completely dry. Give them a good deep drink now, then wait until early September to do it again. Avoid the use of high nitrogen fertilizers at this time. Wait until the leaves on your trees and shrubs are turning color this fall, then you can apply a lawn fertilizer.

Take the time to visit the colorful floral garden displays at Denver Botanic Gardens as well as some of the public parks. It's a good way to obtain ideas for your own garden next year. Many new bedding plants are on display and *you* are the best judge on their performance. In addition to the displays at Botanic Gardens, one of the most outstanding every year is located at Washington Park near Downing Street and Kentucky Avenue.

Dr. J. R. Feucht

Italy in September

Botany, history and fine arts — all will be included when Denver Botanic Gardens' members journey to Italy this September. Carefully selected areas from the Northern Lake District through Tuscany and Umbria to Rome will be toured under the guidance of Mr. Ed Connors, Vice President of the Board of Trustees. Read your folder carefully and then sign up for this exciting trip.



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$15.00 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 10th of each month preceding publication. Editor — Margaret Wallace, 575-2547.



Tributes

In memory of Mrs. Mary Petrikin Kugeler

Mr. & Mrs. William Grant

Sally Brown McInnes

Mr. & Mrs. Theodore W. Wrenn, Jr.

In memory of Mrs. Ione E. Lenhardt

Alison Lenhardt

In memory of Mrs. Cecil M. McIntyre

Melanie Grant

In memory of Mr. Lou Schiff

Murray and Phyllis Hayutin

In memory of Mr. Eugene Shumaker

Mr. & Mrs. Theodore W. Wrenn, Jr.

Contributions of cash, goods, or services have been received from the following friends:

Anonymous

Beatrice Foods Co.

Lloyd Brinson

Civic Garden Club

Denver Dahlia Society

Mrs. Claud Eizlini

Melanie Grant (to celebrate the birth of
Newell M. Grant, Jr.)

L. C. Keenan

Larry Latta

Dr. T. Paul Maslin

Mrs. Frank Monninger

Oliver Hellgren Architects

Rocky Mountain African Violet Council

Dr. John Stewart

Special thanks to Bill Heard of Heard Gardens in Des Moines, Iowa, for his contribution of a *Viburnum rufidulum*, Southern Black-Haw. The plant is located at the entrance to the Low Maintenance Garden. This rare plant is a much appreciated addition to our *Viburnum* collection.

Wish List:

Volunteer who can repair adding machines (at your leisure)

6" Power Jointer (Rockwell)

Dump Truck — 1½ ton

If you can help, please call Gloria Falkenberg, 355-3456.

Tea House Open

Kim Thrasher will be stationed in the teahouse of the Japanese Garden on August 8 from 10 to 12 noon.

Denver Botanic Gardens, Inc.

909 York Street

Denver, Colorado 80206

303-575-2547

TIME VALUE



August 1981

Address correction requested

Return postage guaranteed

Classes

Small Space Gardening is full. If you have signed up remember to attend at 7 p.m. on both August 4 and 6 in Classroom A. On August 8 please meet at 9 a.m. in Classroom A for the walking tour.

Canning and Freezing Garden Produce will be taught by Jackie Anderson of the C.S.U. Extension Office. Join her at 9:30 a.m. in Classroom B on August 11. All welcome without charge.

On August 19 join Mary Edwards' field trip to study "that universal and public manuscript that lies expanded unto the eyes of all." Meet at 9 a.m. in the parking lot of the House, 909 York. Bring lunch and share gasoline expenses with the driver. There is no other charge and no limit.



Litter Lasts

All of us know to be careful with trash but the following indication of rates of disintegration may reinforce the reminder: "If you can pack it in, you can pack it out."

Orange peel — 2 weeks to 5 months

Plastic carbon paper — 1 to 5 years

Plastic bags — 10 to 20 years

Nylon fabrics — 30 to 40 years

Hiking boot soles — 50 to 80 years

Aluminum cans and tabs — 80 to 100 years

(Courtesy New Hampshire Campground Owners Newsletter)

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Denver, CO

Green Thumb Newsletter



Number 81-9

September 1981



Meet our Summer 1981 Interns!

(Left to right) Sandra Baldwin, Community College, North Campus; Tamara Naumann, Colorado State University; Katey Palmer, University of Colorado; Suzanne Lippolis, University of Colorado.

Gardening Notes for September

It's back to school and vacation time is over, but not in our gardens. Colorado frequently has "Indian summers" which tend to extend our growing season and also result in some of the most brilliant fall color. No one can predict the date of the first hard killing frost, but there are many things that can be done in the yard in the meantime as well as after frost.

One of the most important jobs is to keep up with the weeding of shrub borders and flower beds. Try to avoid letting weeds go to seed because they will only add to your problem next year. Periodic weeding, while somewhat of a chore, is much better than waiting until it becomes a big problem. It will then indeed be a chore. Another advantage of keeping weeds pulled before they go to seed is that they can be put into your compost pile without contaminating the compost for future use.

If you are planning to establish a new lawn or patch up an old one, here are some tips, whether you choose to use seed or sod.

The most important step after selecting seed or sod is the preparation of the soil. Don't be misled by those claiming that the ground need not be prepared before applying sod. The roots of sod are no different from those that develop from seeds. In both cases continued root development is dependent upon proper aeration, moisture level and nutrition. Laying sod on hard, packed ground which has not been previously cultivated is not better than laying it on concrete. While demonstrations by commercial firms show that sod can be grown on concrete, these demonstrations don't tell the amount of time and expense necessary to perform this hydroponic feat. Most demonstrations of that type are also short-term, but your lawn should be considered a permanent installation.

Before seeding or sodding, the ground should be worked well and organic matter added, if necessary, to a depth of six inches. Sod should be laid only on a firmed, but not compacted, surface. This is best done with a roller.

Perhaps this fall you are contemplating replacing a tree or shrub. While fall is considered second best as a time for transplanting, spring being preferable, you can successfully transplant many trees and shrubs if done properly.

When buying a tree from a nursery, whether it be in a container or field grown, be just as fussy as if you were buying a refrigerator, a washing machine or an automobile. Look for quality and don't buy by price alone. Some things to consider when buying a tree: first, what size and shape will best suit the location in which it is to be placed? Second, in what type of soil will it be planted? Pay particular attention to the sub-soil drainage. Third, what kind of exposure — sun, shade, wind — will the tree have?

As a general rule, the faster a tree grows the more brittle it is. Species such as soft maple, Siberian (Chinese) elm and willows may make shade a few years faster than oak or linden, but they will also break up in storms much more readily. Few of us need to be reminded of the limb breaker storms of 1969 and 1971.

As a general rule, a tree that has upright, narrow-croched branches, like a Lombardy poplar (also rather fast growing), will be more brittle than a tree with branches at near right angles to the main trunk. Select trees for permanence and lower future maintenance, not for initial cost!

My selection of trees for this area would include littleleaf linden, red oak, swamp white oak and English oak. Which one would be used for a given situation would, of course, depend on the conditions of the soil and site. More information on selection of trees may be obtained from your county extension office. Request pamphlet 43, "Selecting Trees for the Home Grounds".

Fall Chores

Now is a good time to begin reconditioning your garden soil. I call it "composting in place". As you remove annuals and cut back dying tops of garden perennials, chop them up with a sharp spade and plow into vacant areas of the garden. If plowed in while still moist and green, the garden refuse will decay considerably before the ground freezes. This system also spreads out the annual fall chore of spading the garden and eliminates the back-breaking job of turning a compost pile. Leave the turned ground rough and in clods. Let winter's freezing and thawing action break them down for you. You will have mellow soil to work with next spring.

While you will want to keep your lawn watered and green on into the late fall, try to reduce frequency of watering near trees and shrubs until leaves begin to fall off deciduous trees. Less water helps to promote hardening off of woody plants. Avoid letting them get too dry, however.

Buy Bulbs Early

Spring bulb planting time will soon be here. For the best quality bulbs, buy early. They store just as well or even better in your home as in a garden center. Keep dry and in a cool place, away from bright light. If you store in your refrigerator, don't leave them too long. They tend to develop mold in the more humid environment of most refrigerators.

Dr. J. R. Feucht

Another Great Concert

KCFR and The Gardens are proud to present the Aries Brass Quintet in concert in the amphitheatre, 1005 York, September 2 at 7 p.m. This well known group will present a cross section of music including renaissance music, selections by Bach, 19th century American brass band music, and ragtime.

There is no charge but tickets are required. They are on a first come basis and may be picked up at KCFR, 2056 South York or the gatehouse at DBG.

Gloxinia Gesneriad Growers Hold Annual Flower Show

How would you like to have a new plant for your home this fall? And would you like it to be a blooming plant, an attraction when friends come to visit?

Gesneriads make ideal house plants. They range in size from 1 inch in height to 6 feet. Some grow upright, many trail and lend themselves easily in hanging baskets. They need good light; they grow well in sunlight. And all of them bloom!

The Gloxinia Gesneriad Growers will hold its annual show and plant sale in the John C. Mitchell Hall of Botanic Gardens on Saturday and Sunday, October 10 and 11. The show and sale will be open to the public from 1:00 p.m. to 4:30 p.m. on Saturday, and 10:00 a.m. to 4:30 p.m. on Sunday. The theme of the show is Rodeo.

When you visit our show you can see what these exotic plants look like when they are blooming. You can learn how to grow your own plants, and you can purchase mature plants and starter plants. The African violet is a gesneriad. You will find them included in the show and at the sale. Bring your camera if you like, bring your questions, and plan to spend an interesting hour or two getting acquainted with the blooming houseplants.

Denver Dahlia Show

The 1981 Denver Dahlia Show will be held at the Denver Botanic Gardens on September 12th and 13th. Any gardener who raises dahlias is eligible to show his blossoms at this show. There will be special classes for the amateur, newcomer and juniors age 16 and under.

Those who like to see beautiful flowers should attend this show on Saturday 1 to 4 p.m. or on Sunday from 10 a.m. to 4 p.m.

The Dahlia Show is sponsored by the Denver Dahlia Society. If you have any questions or need information about the show call the president - Everett Holt 771-3585 or the show chairman - Ed Mehner 355-9045.

Challenge the 80's

Have you helped "Challenge the 80's" with your tax deductible donation? Visit the Gardens, enjoy, and contribute to the Challenge — your gift *to* the Garden is a gift *for* the Garden.

If you work for one of the following companies whatever you contribute to our Annual Fund is matched by the company:

Atlantic Richfield

Citibank

Samuel Gary Oil Producer

Union Pacific Corporation

Does your firm also do this? Please inquire and make your dollars multiply.

September Classes

Sign up now for the *Romance of Herbs — Cuisine and History* with Judith Fine-Sarchielli. Our instructor is especially well versed to explain and demonstrate the many uses of herbs for she lived in Florence and Rome for 15 years and owned a restaurant and cooking school. The class will run for three Tuesdays starting on September 1, 10 to 12 noon, preparation room of John C. Mitchell Hall. The cost of \$12 for members and \$17.50 for nonmembers will include all materials but please bring a knife and a cutting board.

A free class on *Annuals* will provide much information so that you can design next year's garden with confidence. Meet Gayle Weinstein on September 3 at 9 a.m. in Classroom C.

For riches vanish, the most stately mansions fall into decay, the most prolific families die out sooner or later; the mightiest states and the most flourishing kingdoms may be overthrown: but the whole of nature must be obliterated before the genera of plants disappear and he be forgotten who held the torch aloft in botany.

. . . . Linneaus

Introduction to General Botany, designed to be the equivalent of a freshman course in college botany, will be taught by Dr. William G. Gambill, Jr., our Director Emeritus. Compound microscopes will be used to study the cells, tissues and organs of the higher plants, and lecture-discussion sessions will complete this ten-week course. It will begin on September 9 and continue each Wednesday evening until November 11, 7 to 9:30 p.m. in the Herbarium. The cost is \$55 for members, \$60 for nonmembers.

Another opportunity to work directly with plants is available when *Dividing and Transplanting Perennials* will be taught on September 10, 9 to 11 a.m., Classroom A and the perennial border. Please bring gloves and a shovel. The cost is \$8 for members, \$10 for nonmembers. Limit 15.

Join us on September 16 for the last regularly scheduled *field trip* of the season. Meet in the parking lot of the House, 909 York at 9 a.m. Bring lunch and share gasoline expenses with the driver. Free.

Beginning Bonsai will be taught on September 17, 24 and October 1 from 7:30 to 10 p.m., Classroom B. The fee of \$30 for members and \$35 for nonmembers will provide all materials.

A *workshop on Water-Efficient Gardens, Sun-Efficient Homes: Concepts for the 80's* is offered on September 19 from 9 a.m. to 4:30 p.m., Classroom C. Some of the items to be covered include: plantings to make homes more energy efficient, garden design concepts, drought tolerant plants, active and passive systems, greenhouses vs. sun rooms, and home designs for energy conservation. The cost of \$115 will include coffee breaks, lunch and many educational materials.

One of the most popular offerings of the spring will be repeated with our eight-week *Botanical Drawing* class. This begins September 22 and continues each Tuesday until November 10, 9:30 to 11:30 a.m., Classroom B. The cost, which includes all materials, is \$35 for members, \$40 for nonmembers.

Learn to make all sorts of flower accessories and *Arrangements Suitable for Weddings* in our evening class of three weeks duration. This starts on September 23, 7 to 9 p.m., Classroom B. The cost, with all material provided, is \$17 for members, \$20 for nonmembers.

Finally, the Guides class, *Tropical Plants of the Conservatory*, which is designed to train volunteers to provide tours of the Conservatory, will begin on September 30. This ten-week class is divided into two parts, 1 to 2 p.m. a lecture class taught in Classroom C, and 2 to 3 p.m. taught in the Conservatory. The fee of \$25 is refunded after the student donates forty hours as a guide.

Welcome, New Members

Mr. & Mrs. Frederick G. Aldrete
Mr. & Mrs. D. C. Anderson
Mr. & Mrs. Ernest O. Anderson
Valerie Anderson
Edward Anvari
Paul & Jackie Atkins
Lynn C. Badger
Mr. & Mrs. Joseph A. Baird
Mr. & Mrs. Joseph Barker, Jr.
Mr. & Mrs. Donald W. Barnfield
John R. & Sophia Barter
Clara B. Barton
Nevin Bebee
Irving Bennett
Sheila Bisenius
Mr. & Mrs. Royal M. Bliss, Jr.
Susan M. Bonfiglio
Seth M. & Sarah Bradley
Mr. & Mrs. Fred M. Brasch
Mrs. Gladys Breuklander
Mrs. Georgia V. Burnett
Mr. & Mrs. Clifford Butner
Mrs. N. Kester Cantrell
Dr. & Mrs. Murray F. Caplan
Leslie Cleveland
Pamela J. Chomas
Helena Li Chum
Anne E. Collett
Theresa Corrao
Connie L. Crowley
Kathleen Schatz Dague
Mrs. Timothy A. Davis
Harvey Dawson
Cynthia A. Delhaie
Victoria Franklin Dillon
Sally M. Dolan
Mrs. A. Baker Duncan
Linda M. Egan
Max & Carol Ehrlich
Joeeph A. & Saidee M. Elder
Miss Marian W. Elder
Dr. & Mrs. Richard T. Ellison III
Mr. & Mrs. Joseph S. Epstein
Mr. & Mrs. Bruce Fedder
David & Debra Flitter
John T. Garver & Family
Lois Anne Gaul
Mr. & Mrs. Dan M. Gish
Mrs. Madeline Goddard

Mr. & Mrs. James M. Good
Ms. Janet Grant
Claude Gray
Harriette J. Grove
Audrey Haerlin
Linda E. Hamlin
Mr. & Mrs. Warren Hamm
Barbara & Richard Hansen
Dr. & Mrs. Malik M. Hasan
Brian B. & Margaret T. Hayward
Mr. & Mrs. Phillip G. Heinschel
Mr. & Mrs. Jeffrey T. Herm
Emma Hobert
Sandra L. Holliman
Dr. Joseph Horn
Mrs. Jacqueline Hosler
Charles Hottinger
Mr. & Mrs. A. S. Hoysradt
Jean K. Johnson
Anthony J. Joy
Mrs. Dorothy Kennedy
Linda R. Kernan
Karen E. Kieselbach
Kathy S. Kise
Laura P. Klem
Mrs. Louella Klemm
Mr. & Mrs. Charles H. Kosub
Mr. & Mrs. Fred R. Krintz
Janice Zinkl Kuzman
Bobette M. Lang
Barbara Largent
Mr. & Mrs. Robert S. Lasher
Valerie L. Leiser
Frances E. Lippold
Betty Lomonaco
Mr. & Mrs. Joseph J. McCormack
Mrs. Leslie L. McCue
Mrs. R. McLaughlin
D. P. Macdonald
Mr. & Mrs. William Malgieri
Mr. & Mrs. Alan Markson
William T. Martin
Mr. & Mrs. William M. Massanet
Marilyn Matthesen
Robert Mross
David E. Maus
Carol L. Moon
Mr. & Mrs. Paul Murphy
LuVerne Murray

Chris Nickle
Northwest Ornamental Horticultural
Society, University of Washington
Arboretum
Frank & Marnie Nuccio
John O'Connor
Loree Ogle
Kim Parker
Mrs. Harley N. Patton, Jr.
Priscilla Picker
Dr. & Mrs. Nathan Pollack
The RMH Group, Inc.
Patricia A. Rada-Sidinger
James E. Raztloff
Mr. & Mrs. S. Reubenstein
Cathy Riegelhuth
Mr. & Mrs. Robert D. Rolander
Joanne D. Rondon
Mr. & Mrs. David W. Route
Donna F. Rugg
Ann M. Rusnock
Lorraine A. Salkeld
Alice M. Saunders
Mr. & Mrs. Harry A. Saylor
David G. & Joan W. Sherman
Raymond R. Short
Anne Sidwell
Susan Skaggs
Walt & Marilyn Skrifvars
Mrs. Joan Slump
Mr. & Mrs. D. T. Smith, Jr.
Louise E. Smith
Mrs. Richard Smith
Mrs. John L. Sneed
Olga C. Soda
Sam Sripong
Mr. & Mrs. John H. Stamper
Ray & Kathy Steefa
Milton Stockmyer & Family
Alice B. Sweeney
Lisa Tan
Mr. & Mrs. K. L. Teter
Cheri L. Thomas
Mr. & Mrs. Lee G. Tipton
Sally Wantz
Linda Ward
Jim Weedin
Mrs. Henry R. Wells
Mr. & Mrs. Randy Wright
Mrs. Aletha C. Vandermilller

Denver Orchid Society

The Denver Orchid Society will hold its Fall, 1981 auction on Thursday, September 24 in Mitchell Hall. This auction is open to the public, and doors will open at 7 p.m. with the auction starting at 8 p.m.

A wide variety of orchid plants will be sold, many of which can be grown in the home, and cultural information will be available. If you are interested in orchids, plan to attend, or visit one of the orchid society's monthly meetings, held the first Thursday of the month at 7:45 p.m. also in Mitchell Hall. For more information, call Harold Taylor at 986-7238.

Film

The Rival World, a film about insects, will be our offering this month. Join us on September 12 at 1:30 p.m., Classroom C and enjoy the marvelous close-up photography. Free and all welcome.

Tea House Open

The tea house in Shofu-en will be open just one more time this season. Kim Thrasher will explain some of its interesting features on September 5 from 10 to 12 noon. All welcome.

Visit the Gift Shop

Nature dictates the selection of various pieces of jewelry in our gift shop for many are made of a yellow or brownish translucent fossil resin. Look for our wide selection of amber — necklaces of all lengths, rings, earrings, pendants — perfect for yourself or as a present for another. Also while there, note the new line of wooden wall hangings — a handsome addition for any home. Do you like to collect ceramic animals? Bandana of San Diego presents a real menagerie, all in lifelike poses. Finally maybe some real representatives of the animal kingdom will visit if you hang our new hummingbird feeder on your porch or patio. Directions for the nectar are also enclosed. Take time to browse!

Botany Club

September 18 - 7:30 p.m.

This is the last meeting in the Herbarium this season. Please bring composites for identification.

Corrections Please

Occidental Fire and Casualty Company of North Carolina should be listed as a *Benefactor* in the Annual Report. The correct name of the Mount Goliath Alpine Unit is the M. Walter Pesman Nature Trail.

Calendar of Events



September 1981

- | | | | |
|------|------------|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| 1)* | 10:00 a.m. | Education Building — Preparation Room | "Romance of Herbs — Cuisine & History" —
Judith Fine-Sarchielli |
| | | (This is a 3-week course, continuing on Sept. 8th, and 15th) | |
| 1)* | 1:00 p.m. | D.B.G. House — Dining Room | Editorial Committee Meeting |
| 1)* | 7:30 p.m. | Education Building — Classroom B | Denver Bonsai Club |
| 2)* | 10:00 a.m. | Education Building — Classroom C | Parks & Recreation Dept. |
| 2)* | 4:00 p.m. | D.B.G. House — Dining Room | Planning Committee Meeting |
| 2) | 6:30 p.m. | Education Building — Amphitheater | KCFR Chamber Music Concert |
| 3)* | 9:00 a.m. | Education Building — Classroom C | "Design Annual Beds" — Gayle Weinstein |
| 3)* | 9:30 a.m. | D.B.G. House — Main Room | Central District Presidents Council |
| 3) | 7:45 p.m. | Education Building — Mitchell Hall | Denver Orchid Society |
| 4)* | 11:00 a.m. | D.B.G. House — Main, Dining Rooms | Civic Garden Club |
| 5) | 9:30 a.m. | Education Building — Classroom B | Gloxinia Gesneriad Growers |
| 8)* | 12:00 noon | Education Building — Herbarium | Herbarium Committee Meeting |
| 8)* | 1:00 p.m. | D.B.G. House — Main Room | Colorado Women's Conservation Club |
| 8)* | 4:00 p.m. | D.B.G. House — Dining Room | Executive Committee Meeting |
| 8) | 7:30 p.m. | Education Building — Classroom A | Colorado Cactus & Succulent Society |
| 9)* | All Day | Education Building — Mitchell Hall | International Society of Arboriculturists |
| 9)* | 12:00 noon | D.B.G. House — Dining Room | Development & P.R. Committee Meeting |
| 9)* | 3:30 p.m. | D.B.G. House — Dining Room | Horticulture Advisory Sub-Committee for Chatfield
Arboretum |
| 9)* | 7:00 p.m. | Education Building — Herbarium | "Introduction to General Botany" —
Dr. William G. Gambill, Jr. |
| | | (This course continues every Wednesday at 7:00 p.m. for 10 weeks) | |
| 10)* | All Day | Education Building — Mitchell Hall | International Society of Arboriculturists |
| 10)* | 9:00 a.m. | Education Building — Classroom A | "Dividing & Transplanting Perennials" —
Mr. Andrew Pierce |
| 10) | 7:30 p.m. | D.B.G. House — Main Room | Denver Rose Society |
| 11) | 7:30 p.m. | D.B.G. House — Main Room | Denver Dahlia Society |
| 12)* | 8:00 a.m. | Education Building — Classroom A | Denver Rose Society — Flower Judging School |
| 12) | 8:30-4:30 | D.B.G. House — Parking Lot | Men's Garden Club of Denver Plant Sale |
| 12)* | 11:00 a.m. | D.B.G. House — Main Room | Alpha Delta Kappa Luncheon Meeting |
| 12) | 1:00-4:00 | Education Building — Mitchell Hall | Denver Dahlia Society Show |
| 12) | 1:30 p.m. | Education Building — Classroom C | Film: "The Rival World" |
| 13)* | 8:00 a.m. | Education Building — Classroom A & B | Denver Rose Society — Flower Judging School |
| 13) | 10:00-4:00 | Education Building — Mitchell Hall | Denver Dahlia Society Show |
| 14) | 7:30 p.m. | Education Building — Mitchell Hall | Colorado Mycological Society |
| 15)* | 7:30 p.m. | Education Building — Classroom B | Denver Bonsai Club |
| 16)* | 7:30 p.m. | Education Building — Classroom C | American Rock Garden Society |
| 17)* | 4:00 p.m. | D.B.G. House — Dining Room | Chatfield Committee Meeting |
| 17) | 7:30 p.m. | Education Building — Classroom A | Indoor Light Gardening Society |
| 17)* | 7:30 p.m. | Education Building — Classroom B | "Beginning Bonsai" — Mr. Keith Jeppson,
Mr. Harold Sasaki |
| | | (This is a 3-week course continuing on Sept. 24 and October 1) | |
| 18) | 9:30 a.m. | Education Building — Classroom B | Potpourri Workshop |
| 18)* | 7:30 p.m. | Education Building — Herbarium | Denver Botany Club |
| 19)* | 9:00-4:30 | Education Building — Classroom B & C | "Water Efficient Gardens/Sun Efficient Homes:
Concepts for the 80's" — Mr. John Meeker,
Mr. Al Rollinger |
| 19)* | 9:30 a.m. | Education Building — Classroom A | Hi Country Judges Council |
| 19)* | 5:00 p.m. | Education Building — Mitchell Hall | American Iris Society Board Meeting |
| 19) | 6:00 p.m. | Education Building — Mitchell Hall | American Iris Society Dinner Meeting |
| 21) | 7:00 p.m. | Education Building — Classroom C | Hi Country Bromeliad Society |

LIBRARY LINES

VOL.4 - NO. 4
September 1981

A BIMONTHLY NEWSLETTER OF THE HELEN FOWLER LIBRARY OF DENVER BOTANIC GARDENS

Ebison, Maurice, Editor. SCIENTIFIC QUOTATIONS: THE HARVEST OF A QUIET EYE. N. Y., Crane, Russak & Co., Inc. 1977. \$19.50. Q 173 H2794.

This collection of quotations spans centuries of thought by poets, philosophers, artists, mathematicians, politicians, scientists, etc. Included are excerpts from their writings, mathematical equations, lines from the New Testament, and the more familiar quotations, all organized alphabetically under author. This book is fascinating because many different angles of the broad topic of science are approached by so many infinitely different individuals. This would seem an interesting book to pick up for a few minutes but I was so engrossed that I couldn't put it down that readily. It's both amusing and serious, and also educational in that its offering of such a variety of viewpoints causes the reader to become cognizant of the myriad ways of approaching a single subject. One anonymous quote "'Life is very strange' said Jeremy. 'Compared with what?' replied the spider." reminds the reader to remain open-minded.

Katey Palmer

Lerner, Carol. SEASONS OF THE TALL GRASS PRAIRIE. N.Y., William Morrow and Co., Inc. 1980. \$7.95. j QK 938 P7 L4764.

This delightful book opens with the poetry of a sea of swaying grasses followed by observations and simple explanations of prairie ecology and occasional references to the native prairie the Indians knew. The book is divided into sections of the four seasons observed in the prairie and the author points out, for instance, that in the fall, the composite family plants dominate. She describes and illustrates with a few specific plants, and briefly their morphologies and ecologies, describes relationships between certain plants, and also mentions insects and birds found on the prairie. In addition to descriptive text, the use of a few scientific details, entirely comprehensible to a ten year old, make this a most interesting survey of the prairie environment.

K.P.

Wilson, Ron. HOW PLANTS GROW. New York, Larousse and Co., Inc., 1980. \$8.95. j QK 49 W5673.

Filled with informative diagrams and colorful photographs, this children's book is for anyone from fifth grade to adult who is

just beginning plant studies. A clear authoritative text introduces basic morphology, classification and physiology. The sections with the widest appeal are those on ecology. Plants which have adapted to a particular environment are shown to be co-evolving with the animals.

Suzanne Lippolis

Ruggiero, Michael A. A SPOTTER'S GUIDE TO WILD FLOWERS OF NORTH AMERICA. New York, Mayflower Books, 1979. \$1.95. QK 110 R865.

This is a beginner's field guide (ideal for children too) organized by flower color with fine botanical illustrations and common names. The intent of the spotter's guide is just to spot and to note that one has seen the flower. There is no specific taxonomic breakdown, so some confusion is bound to result at the species level; no relations within a family are denoted either. Since we all have to start wild flower identification with a field guide, this one just might spark some interest in someone.

S. L.

Bengtsson, Gerda. HERBS AND MEDICINAL PLANTS IN CROSS-STITCH. New York, Van Nostrand Reinhold Co. 1978. \$6.95. TT 778 C76 B4658.

The Danish Handcraft Guild has put out a lovely book of original embroidery patterns. Each plant is identified by common name as well as genus and species name with a short description of its useful properties. Each design is color photographed with corresponding graph paper pattern which has a color coded key of delightful thread shades available through the guild.

S. L.

Gadd, Lawrence. DEADLY BEAUTIFUL. N.Y. McMillan Publishing Company, Inc. 1980. \$17.95. QL 100 G344.

Gadd offers a descriptive survey of poisonous plants and animals, one which is lacking in scientific detail. He fails to include consistent information on habitat and poisonous body organs of animals, and he rarely mentions the actual chemicals or mechanisms of poisoning by plants. While some readers might find this an interesting survey, others might find that the lack of specifics, e.g. toxicity information, confuses their understanding of these plants and animals.

K. P.

Halpin, Ann M. Editor. N.Y., RODALE'S ENCYCLOPEDIA OF INDOOR GARDENING. Emmaus, Pa., Rodale Press. 1980. \$24.95. SB 419 R65.

Rodale Press has once more published a practical excellent sourcebook, this time for the greenhouse and house plant enthusiast. Each group or family of plants is introduced with some simplified botany. Further subdivisions to genus delineate peculiar physiology which would require special care. Another section lists, describes and pictures many of the species and their particular qualities. It is surprising to find such a quantity of useful diagrams, tables and identifying photographs from which the reader is able to make informed decisions about such difficult subjects as: pest identification and management, home propagation methods and a variety of horticultural techniques.

S. L.

Penn, Irving. FLOWERS. N.Y., Harmony Books, 1980. SB 407 P456 1980.

This is a collection of stunning photographs shot originally for Vogue Magazine. The poppy photos are like abstract paintings, the shapes and colors magnificent; each rose exudes its own captivating scent; the glandular dots and curling petals of the lilies seem playful and three dimensional; the light on the red peony creates a silken texture and the orchids are outrageous variations of color. As a coffee table volume, this book represents beauty; as a source of inspiration who knows what potential it may have?

K. P.

Wallace, Dan, editor. GETTING THE MOST FROM YOUR GARDEN: USING ADVANCED INTENSIVE GARDENING TECHNIQUES. Emmaus, Pa., Rodale Press 1980. \$14.95. SB 324.3 G488.

Here is a book for the home gardener who is serious about food production. Well illustrated with an authoritative text, this handbook has excellent information on growing beds, interplanting, winter gardening and articles from intensive gardeners from different regions.

Suzanne Lippolis

Steele, Mary Q. THE LIFE (AND DEATH) OF SARAH ELIZABETH HARWOOD. N.Y., Greenwillow Books. 1980. \$6.95. j PZ 7 S8146.

Sarah loses an album of pressed flowers which belongs to the mother of her friend, Lois, and which has sentimental value. Until she can find the album Sarah avoids Lois and she becomes very lonely and finally obsessed with the idea of suicide as a solution. The plot lacks continuity, is confusing, and the reader often wonders where the author is leading and what she wants to say. Written for ages 9-11, this book does not offer very interesting reading, but touches a subject rarely broached in children's literature.

K. P.

Haraszty, Eszter & Colen, Bruce D. LIVING WITH FLOWERS. N.Y., Liveright. \$16.95. SB 49 H 3737.

There seems to be nothing truly new in this book, and even the text does not lead the reader happily through it. There may be a few useful sections: color key to blossoms, a species culture chart to east-west location, and some color plates of homey flower arrangements.

K. P.

Woodside, Dave. WHAT MAKES POPCORN POP? N.Y., Atheneum Publishers, Inc. 1980. \$9.95. j TX 799 W6646.

Kids! This is an informative book about popcorn which is a native New World Plant. It is filled with recipes, crafts, how-to-grow your own--easy to read instructions with amusing illustrations. The history of popcorn from the Indians, through the Old West, right to modern popcorn poppers is well presented with interesting photographs. A lot of the text is suitable for fourth graders; other sections, like the elementary botany of corn are useful for the junior high school student.

Suzanne Lippolis

Groome, Sarah C.Z. TODAY'S FLOWER ARRANGING WITHOUT TEARS. Philadelphia, Dorrance & Co., 1978. \$8.95. SB 449 G766.

Mrs. Groome's intention is to awake the creative sense within potential flower arranging amateurs. This slender book is filled with color photographs of award-winning arrangements which have very modern styles. The flowering text included detailed suggestions for techniques interspersed with anecdotes of her own experience in flower shows. Enthusiasts will enjoy this original manual.

S. L.

Darnell, Jane and Hawkes, Patricia. PODS AND ODD BODKINS: ORNAMENTS FROM NATURAL MATERIALS. Chester, Conn., The Globe Peguot Press. 1979. \$4.95. TT 900 C4 D2764.

For those of you who enjoy making Christmas decorations and wreaths or dried arrangements, this paperback has many crafts which are made from plant materials. A few of these ideas would be suitable as a children's gathering field trip and gift project. S. L.

Pittaway, Margaret. THE RAIN FOREST CHILDREN. Melbourne. Oxford University Press. \$7.95. j PZ 7 P5883.

This very simple story for preschoolers follows two children as they leave the rain forest in Australia to go explore the unfamiliar sea. The story is descriptive and accompanied by beautiful illustrations of Heather Philpott, which by themselves make this a beautiful book.

Katey Palmer

Suzanne Lippolis and Katey Palmer, students at C.U., are summer interns at DBG.

Green Thumb Newsletter



Number 81-10

October 1981

Around and About the Gardens Come Celebrate Together!

Fall visitors will find that the Gardens now has a new year-round indoor activity for families to enjoy: in response to the growing difficulty in finding activities for children and families which are both educational and entertaining — and within the budget — The Touching Place has been created. In contrast to the general, necessary “don’t touch” policy around the Gardens, the balcony above the conservatory entrance has been transformed into a bright spot of colorful instructions and interesting plants which combine to give visitors a chance not only to touch, but to pinch, smell, hear and observe the wonderful diversity of our plant world. Offered for intimate exploration will be species which exhibit unusual characteristics of fuzziness, prickliness, odor or color. Since the kinds of plants will be continually changed, The Touching Place is an area worth visiting and re-visiting, whenever the plant-appreciative family needs a “something different” activity.

Classes

The Chatfield Walk is full. If you are signed up on October 5 you may meet the group at 9 a.m. at 909 York or at 10 a.m. at the old school house at Chatfield Arboretum. (Take S470 to the Deer Creek Road, go north 1/4 mile and turn left into the Arboretum. Follow road to schoolhouse.) Bring lunch.

Wildflower Photography as a Hanging Art will provide an opportunity to display your beautiful pictures. Students should bring one photograph for mounting — preferable colored and no larger than 11 x 14". Please meet in Classroom B at 7 p.m. on October 6. The cost is \$7 for members and \$10 for nonmembers.

“The works of a person that builds, begin immediately to decay, while those of him who plants begin directly to improve.” — Wm. Shenstone, 1764

Seven Thursdays in fall will be devoted to *Plant Materials in Landscaping*. Primarily planned as a course for professionals in the field, it will also be useful for advanced amateurs. The cost is \$75 and the class starts on October 8 and continues to November 19 from 7:30 to 9:30 p.m., Classroom C.

Forcing Bulbs for Spring Bloom is full. The class is scheduled for 9 a.m. on October 10 in Classroom B.

Bonsai Club Show

The Denver Bonsai Club will present its annual exhibition on October 17 & 18 from 9:30 to 4:30 in the DBG Horticulture Hall. There will be demonstrations on the art of bonsai each day at 11 a.m., 1 p.m., and 3 p.m. Members of the Denver Bonsai Club will be present to answer any question you may have about bonsai. There will be a 50¢ donation required to enter the exhibition in addition to any donation at the main entrance. This helps defray the cost of presenting the exhibition.

All members of the Associates are invited to the Annual Luncheon Meeting on October 21 in John C. Mitchell Hall. The business meeting begins at 10:30 a.m., followed by a 12:15 lunch and our featured speaker, T. Ray Jones at 1 p.m. Mr. Jones, an excellent photographer who has presented programs for Channel 6 TV, will share his impressions on “Colorado — The Place We Live.” Come, enjoy the company of your friends and celebrate all you do for the Gardens.



Joan Franson, President of the Associates, and Kay Herbold, Potters Guild Member, discuss the upcoming Colorado Potters Guild show and sale at Botanic Gardens October 2 and 3.

Pots and Plants

For their Sixth Annual Fall Show and Sale, the Colorado Potters Guild will again fill John Mitchell Hall with unique containers for plants and flowers. Mary Ann Robinson, Chairman, promises an exciting display of new pots for plant lovers complemented by beautiful flower arrangements.

The show opens on Friday, October 2, 9 - 4:30 and continues through Saturday, October 3, 9 - 4:30.

Gloxinia Gesneriad Growers Show

The Gloxinia Gesneriad Growers will hold its annual show and plant sale in the John C. Mitchell Hall of Botanic Gardens on Saturday and Sunday, October 10 and 11. The show and sale will be open to the public from 1 p.m. to 4:30 p.m. on Saturday, and 10 a.m. to 4:30 p.m. on Sunday.

Tributes

In memory of Ruth Christie Bolin

Solange Gignac
Larry Latta
Beverly Nilsen
Margaret Wallace

In memory of Winifred Egan

Susan G. Coombe
Kathryn Greiving
Mrs. Clarence Hoper
K. McKenna Miller
Eleanor W. Wylie

In memory of R. Wallace Gibson

Mrs. Thomas P. Patterson
George N. Steinhauser
Macey L. Walker
Mr. & Mrs. Robert O. Yeager

In memory of Zel Grebe

Mr. & Mrs. John Falkenberg

In memory of Edith S. Hansen

John and Carol McCarty

In memory of Ross Hohn

Mr. & Mrs. John Falkenberg

In memory of Mrs. Charles Kelly

Mr. & Mrs. Richard Kirk

In memory of Mrs. Helen Olsen

Mr. & Mrs. Keith Bakula
Eva and Anna Mae Erickson
Mrs. Mildred Nelson

In memory of Norman F. Patrick

Mrs. F. V. Altvater
Frances Carswell
Mr. & Mrs. John Falkenberg
Solange Gignac
Ms. E. Sydney Glick
Mr. & Mrs. Robert Kosanke
Frances Morrison
Margaret Wallace
Mrs. Theodore B. Washburne
Mr. & Mrs. L. A. Waterman

In memory of Mrs. F. H. Sterne

The A. and S. Association of Allied Printing
Barbara and Don Walsh

In memory of Jerry Treifus

Mr. & Mrs. Robert Appel

Contributions of cash, goods, or services have been received from the following friends:

Anonymous
Col. W. J. Allen, Jr. (Ret.)
Phyllis and Murray Hayutin — in honor of the 80th birthday of
Mr. Sam Rose
R. J. Little
Mary J. Menig
Mr. C. J. Morgan

Welcome New Members

Mrs. Richard Albin
Mr. & Mrs. Charles F. Albrecht, Jr.
Col. W. J. Allen, Jr.
Mr. & Mrs. Robert G. Andre
Mrs. S. M. P. Ashe
Mr. & Mrs. Robert L. Baker
Alan & Janice Banta
Cleo S. Barnes
Mr. & Mrs. Terry Behrens
Florence S. Best
Al & Betty Blomberg
Loay Winifred Boggess
Mary A. Bogue
Carl C. Bradley
Mr. & Mrs. Trevor T. Bradway
Richard L. Brown
Robert E. & Darlene Brown
Mr. & Mrs. K. R. Buckler
Joyce C. Callahan
Mr. & Mrs. Emory A. Cantey, Jr.
Fred Carder
Diane C. Carlson
Dr. & Mrs. Stephen Carter
Richard B. & Donna M. Cathell
Debbie E. Coffey
Mrs. Nealye Compton
Mr. & Mrs. Julian Cordova
Gary Couples
Mr. & Mrs. Nicholas J. Del Calzo
Huntley Dent
Raymond C. Derzah
Joan & Mary Dodge
Deborah Jo Dow
Mrs. F. C. Edwards
Peg Espy
Donna Everitts
Judith Fine-Sarchielli
Trish Flaster
Catherine M. Flynn
MacGregor Folsom
Ruth D. Foster
Kathryn Foyle
Mark Frederiksen
Ms. Mary P. Frush

S. C. Ghorpade & Family
Christine Goldberg
Penny Graesser
Barbara L. Green & Family
Geri Guenther
Patricia Hart
George H. Heid
John & Nita Hiatt
Teresa M. Hierath
Dr. Robert J. Hilton
Mr. & Mrs. J. R. Horton
Frances D. Hough
Mr. & Mrs. J. Mitchell Hoyt
Victoria Hunter
Mary Elizabeth Hurd
Linda J. Jankovsky
Mrs. Jean H. Johnson
Mr. & Mrs. William F. Johnson
Bonnie Johnston
Helen C. Johnston
Vicki Johnston
Mrs. Jarguerite M. Jones
Charles G. Jordan
Mary P. Kelley
J. R. Kessler
Dr. & Mrs. Daniel Y. Kim
Mr. & Mrs. Hachiro Kita
Dorothy A. Leasher & Family
Charles F. & Donna H. Lehman
Raymond Leidenheimer
Mr. & Mrs. Ronald D. Lemon
Helen Lewis
Mr. & Mrs. R. L. Longfellow
Sandra A. Luipersbeck
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Dr. & Mrs. Daryl K. MacCarter
Mr. & Mrs. Arnold L. Maddox
Mr. & Mrs. Galen S. Malenke
Ms. Gerda Mantinband
Janice L. Mellon
Mrs. E. Joan Merrick
Nora E. Morgenstern
Mrs. Pauline A. Morrison
Alice M. Newberg

Robert E. Newman
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Frances Oliverius
Steven L. Olson
Mrs. O. S. Philpott, Jr.
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Mr. & Mrs. Peter F. Robertson
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Mr. & Mrs. George Sisson
Mr. Jeffrey P. Sivess
Paul & Bea Slingsby
Mr. & Mrs. Andy Stackhouse
Mr. & Mrs. Parker Stafford
Michael Stahl
Margareta A. Stange
Mr. & Mrs. Raymond W. Storek
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Mrs. Chiyono Takeshita
Mr. & Mrs. Wayne Taylor
Mr. & Mrs. James W. Teener
Frances E. Tennant
Dorothea D. Thomson
Patrick G. Thurmond
Ed C. & Joan C. Tomlinson
Max & Barbie Twombly
Kay Herman Vincent
Paul C. & Connie E. Warner
Steven R. Weiner
Mrs. Celeste Whatley
Mrs. Carolyn L. Whitlock
Norman Whitted
Donald R. & Ann Wippermann
Martha Worcester
Virginia C. Wright

Gardening Tips for October

To me, one of the best times of the year is October because it provides an opportunity to make changes in your garden but more important, to improve the soil for next year. It won't be long before the lawn mower can be put away and that is one thing I never miss, and the cooler season of the year should also mean there will be less time spent trying to keep the garden watered. Let's hope for more water next year!

Fall is the best time to spade in your compost or any other sources of organic matter but it is preferable to leave the soil in rather large lumps; letting the freezing and thawing action during the winter break them down. This will result in a mellow soil by spring. Leaving it open and loose also allows moisture to penetrate more deeply, providing a reservoir for spring growth.

There are hundreds of ways to make a compost. If space is limited one of the best methods is to compose right in the garden; chopping up the plant refuse from this year's garden and spading it directly in. This should be done as early as possible, however, so there will be some warm soil to hasten the break down of the material before a hard freeze hits. I have found that one of the best methods to chop the tops of perennials and annuals is to pile them along the edge of the garden and run over them with a rotary mower. If this is done, be sure there are no large rocks or sticks in with the debris and also make sure the debris is blown into an area where neither people nor structures can be injured in the process. After using the mower in this fashion the blade will need to be rebalanced and resharpened but this is a small task compared to chopping it up by hand. There are machines on the market that are designed to do this kind of thing if you prefer.

It is preferable to chop up the garden debris before it has dried and get it spaded in immediately because the moisture in the plant tissues will help promote decomposition at a faster rate.

The primary purpose for adding compost into a garden is not to add fertilizer but to improve soil structure. For those who think that compost adds a lot of fertility to the soil, I should again cite some research mentioned several years ago in this column. The research was conducted by the Connecticut Experiment Station and presented in Bulletin 727, titled, "Biochemistry and Methodology of Composting", by Raymond P. Poincelot. According to this report the average nitrogen level in finished compost is only about 2%. Most of this is not immediately available to a plant and requires breaking down by organisms in the soil. Phosphorus will average less than 1% and potassium about 1%. The latter is rarely needed in our soils.

With drought continuing to be a subject of concern, composts not only improve soil structure but help in water retention. The real secret behind organic gardening is that the organic matter improves the environment for the growth of the roots. Plants with "happy roots" are usually "happy plants".

There are some things that should be avoided in composting:

1. To keep down flies and to keep the neighbors happy, avoid using animal byproducts.
2. Despite the fact that heat may build up in a compost, it often isn't sufficient to kill the weed seeds. It is best to avoid planting debris that has gone to seed.
3. Woody twigs and clippings from evergreens break down slowly, normally requiring the addition of commercial fertilizer containing nitrogen. Coarse material, while useful in amending a soil, should not dominate the compost; perhaps no more than one-third of the volume coming from woody and coarse materials.

4. When using grass clippings, they should be stirred thoroughly and mixed with the coarser materials. If placed in a compost in layers, grass clippings usually produce a "gooey" mass which will act as a barrier to the exchange of air and the penetration of water. A foul odor will also result.

Fertilizing the Lawn

October is a good time to apply a fertilizer to your lawn, particularly if you have been reluctant to use much in the way of fertilizers because of limited water supplies. The cool season of fall helps promote the side growth in bluegrass and fertilizer will help to improve the density of the turf. Apply fertilizer with an analysis of 20-10-5 or similar ratio now and help provide a good greenup in the spring and should also eliminate the need for an early application next year.

Mulches

Mulches are becoming more and more important in the garden not only for the control of weeds but for water conservation. Mulches can be used in several ways during the fall and winter months. If you are planning to plant spring-flowering bulbs, you can help delay or prevent early emergence of the bulbs by applying a mulch after the ground has been thoroughly frozen. The mulch will serve as an insulation; keeping the ground frozen later in the spring. If you are planning on planting trees, shrubs or perennials this fall, use a mulch to prevent the ground from freezing too soon. This will extend the time period needed for development of new roots.

The type of mulch that you select is important. Too often, peat moss is used as a mulch but this is really a soil amendment. Peat moss will tend to compact after watering and will prevent good water and air penetration. Mulches should be made of materials that will not compact such as wood chips, chunk bark or even gravel. If you plan to use black plastic, covering this with a decorative material, use strips no more than 18" wide and overlap them. This will allow better air and water penetration. It is best to use plastic films that are no thicker than 4 mils. Anything thicker than that could suffocate plant roots.

Bulb Planting Time

Spring flowering bulbs can be planted any time now. It is best to get them in before there is a risk of the ground freezing. Most stores that sell bulbs will have charts describing how deep they should be planted. Bear in mind, though, that this chart is designed for well-drained soils and largely for the midwestern and eastern states. As a general rule, bulbs are planted 2 inches deeper in this area than indicated in commercial literature. A well-drained soil is still a must. Bulbs will do poorly in heavy clay soils, particularly in their second year.

Dr. J. R. Feucht

Free Film

The film on October 10, *Forest Chronicles*, traces the development of logging, saw milling, and forestry from the early colonists to today. Original art work, rare historical photos and drawings, and documented narrative combine in this overview of America's first industry. All welcome. Classroom C.

Calendar of Events



October 1981

- | | | | |
|------|--------------------------|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| 1)* | 12:30 p.m. | D.B.G. House — Main Room | Crestmoor Park Garden Club |
| 1)* | 7:30 p.m. | Education Building — Classroom B | "Beginning Bonsai" — Mr. Harold Sasaki, Mr. Keith Jeppson |
| 2) | 9:00-4:45 | Education Building — Mitchell Hall | Colorado Potters Guild Show and Sale |
| 2)* | 9:30 a.m. | Education Building — Classroom B | Potpourri Workshop |
| 2)* | 11:00 a.m. | D.B.G. House — Main Room | Civic Garden Club |
| 3) | 9:00-4:45 | Education Building — Mitchell Hall | Colorado Potters Guild Show and Sale |
| 3) | 9:30 a.m. | Education Building — Classroom B | Gloxinia Gesneriad Growers |
| 5)* | 9:00 a.m. | D.B.G. House — Parking Lot | "Walk at Chatfield Arboretum" — Dr. Moras Shubert,
Mr. Charles Paxton |
| 6)* | 9:30 a.m. | Education Building — Classroom B
(This class continues every Tuesday at 9:30 through November 10) | "Botanical Drawing" — Angela Overy |
| 6)* | 1:00 p.m. | D.B.G. House — Dining Room | Editorial Committee Meeting |
| 6)* | 7:00 p.m.
—10:00 p.m. | Education Building — Classroom B | "Wildflower Photography as a Hanging Art" —
Anette and Bob Heapes |
| 6)* | 7:30 p.m. | Education Building — Classroom C | Denver Bonsai Club |
| 7)* | 8:30 a.m. | Education Building — Classroom C | Junior League of Denver |
| 7)* | 1:00-3:00 | Education Building — Classroom C
(This class continues each Wednesday at 1:00 through December 2) | "Tropical Plants of the Conservatory" — Mrs. Peg Hayward |
| 7)* | 4:00 p.m. | D.B.G. House — Dining Room | Planning Committee Meeting |
| 7)* | 7:00-9:00pm | Education Building — Classroom B | "Wedding Flowers" — Marsha Celesta |
| 7)* | 7:00-9:30pm | Education Building — Herbarium
(This class continues every Wednesday at 7:00 p.m. through November 11) | "Introduction to General Botany" — Dr. William G. Gambill, Jr. |
| 8) | 11:00 a.m. | Education Building — Mitchell Hall | Colorado Air Quality Control |
| 8)* | 7:30 p.m. | Education Building — Classroom C
(This class continues every Thursday at 7:30 p.m. through November 19) | "Plant Materials in Landscaping" — Mr. Al Rollinger,
Mr. Larry Watson |
| 8) | 7:30 p.m. | D.B.G. House — Main Room | Denver Rose Society |
| 8) | 7:45 p.m. | Education Building — Mitchell Hall | Denver Orchid Society |
| 9)* | 9:30 a.m. | Education Building — Classroom B | Potpourri Workshop |
| 9)* | 10:00 a.m. | D.B.G. House — Dining Room | Ikebana International Board Meeting |
| 9) | 7:30 p.m. | D.B.G. House — Main Room | Denver Dahlia Society |
| 10)* | 9:00-11:30 | Education Building — Classroom B | "Forcing Bulbs for Spring Bloom" — Ms. Marsha Celesta |
| 10)* | 9:00-10:00 | Education Building — Classroom C | Tour for the Visually Impaired — Mrs. Fine |
| 10) | 1:00-4:00 | Education Building — Mitchell Hall | Gloxinia Gesneriad Growers Show & Sale |
| 10) | 1:30 p.m. | Education Building — Classroom C | Film: "Forest Chronicles" |
| 10)* | 8:00 p.m. | D.B.G. House — Main Room | New City Opera Co. Reception |
| 11) | 10:00-4:00 | Education Building — Mitchell Hall | Gloxinia Gesneriad Growers Show & Sale |
| 12) | 7:30 p.m. | Education Building — Mitchell Hall | Colorado Mycological Society |
| 13)* | 12:00 noon | Education Building — Herbarium | Herbarium Committee Meeting |
| 13)* | 1:00 p.m. | Education Building — Classroom A | The Associates Board Meeting |
| 13)* | 1:00 p.m. | D.B.G. House — Main Room | Colorado Women's Conservative Club |
| 13)* | 4:00 p.m. | D.B.G. House — Dining Room | Executive Committee Meeting |
| 13) | 7:30 p.m. | Education Building — Classroom A | Colorado Cactus & Succulent Society |
| 14)* | 12:00 noon | D.B.G. House — Main Room | Development Committee Meeting |
| 14)* | 3:30 p.m. | D.B.G. House — Dining Room | Horticulture Advisory Sub-Committee for Chatfield |
| 15)* | 4:00 p.m. | D.B.G. House — Dining Room | Chatfield Committee Meeting |
| 15) | 7:30 p.m. | Education Building — Classroom B | Indoor Light Gardening Society |
| 16)* | 9:30 a.m. | Education Building — Classroom B | Potpourri Workshop |
| 16) | 7:30 p.m. | Education Building — Classroom C | Denver Botany Club |
| 17) | All Day | Education Building — Mitchell Hall | Denver Bonsai Club Exhibition & Show |
| 17)* | 9:00 a.m. | Education Building — Classroom A | Gloxinia Gesneriad Growers Judging School |
| 17)* | 9:00-10:00 | Education Building — Classroom C | Workshop for the Visually Impaired |
| 17)* | 1:00-5:00 | Education Building — Classrooms B & C | Native Plant Society |
| 18) | All Day | Education Building — Mitchell Hall | Denver Bonsai Club Exhibition & Show |

CALENDAR OF EVENTS FOR OCTOBER (Continued)

19)	7:00 p.m.	Education Building — Classroom C	Hi Country Bromeliad Society
21)*	9:00-11:00	Education Building — Classroom B	"Grapevine Wreaths" — Nerys Hammond
21)*	11:00 a.m.	Education Building — Mitchell Hall	The Associates Annual Luncheon
21)	7:30 p.m.	Education Building — Classroom C	American Rock Garden Society
22)*	9:30 a.m.	Education Building — Classroom B	African Violet Society of Denver
22)*	10:00 a.m.	D.B.G. House — Main Room	Around the Seasons Club
22)*	3:00 p.m.	D.B.G. House — Dining Room	Horticulture Advisory Committee Meeting
22)*	7:30 p.m.	D.B.G. House — Main Room	Men's Garden Club of Denver
23)	All Day	Education Building — Mitchell Hall	Stained Glass Artists Fellowship Show and Sale
(This Show and Sale continues daily through November 1st)			
23)*	9:00 a.m.	Education Building — Classroom C	Ikebana International
23)*	9:30 a.m.	Education Building — Classroom B	Potpourri Workshop
24)*	9:00-12:00	Education Building — Classroom B	"Better House Plants" — Andrew Pierce, Steve Olson
26)	9:30 a.m.	D.B.G. House — Main Room	Ultra Violet Club
27)*	12:00 noon	Education Building — Herbarium	Herbarium Committee Meeting
28)*	12:00-1:00	Education Building — Classroom B	Guides Meeting
28)*	12:00 noon	D.B.G. House — Main Room	Public Relations Committee Meeting
28)*	12:00 noon	D.B.G. House — Dining Room	Colorado Garden Show, Inc.
29)*	11:30 a.m.	D.B.G. House — Main Room	Southern Hills Garden Club
30)*	9:30 a.m.	Education Building — Classroom B	Potpourri Workshop
31)*	9:00-10:00	Education Building — Classroom C	Workshop for Visually Impaired
NOVEMBER			
1)*	1:00 p.m.	D.B.G. House — Dining Room	Editorial Committee Meeting
3)	7:30 p.m.	Education Building — Mitchell Hall	Dr. Tempel Memorial Wildflower Slide Series
3)*	7:30 p.m.	Education Building — Classroom B	Denver Bonsai Club
4)*	8:00 a.m.	Education Building — Mitchell Hall	Mile Hi United Way
4)*	4:00 p.m.	D.B.G. House — Dining Room	Planning Committee Meeting
4)*	5:00 p.m.	Education Building — Mitchell Hall	Reception for the Native Plant Society
5)*	9:00-12:00	Education Building — Classroom B	"Beginning Wheat Techniques" — Jean Kline
5)*	9:30 a.m.	D.B.G. House — Main Room	Central District Presidents' Council
5)*	All Day	Education Building — Mitchell Hall	Native Plant Society — Rare Plant Conference
5)*	7:45 p.m.	Education Building — Mitchell Hall	Denver Orchid Society
6)	All Day	Education Building — Mitchell Hall	Rare Plant Conference — Native Plant Society
6)*	9:30 a.m.	Education Building — Classroom B	Potpourri Workshop
6)	11:00 a.m.	D.B.G. House — Main Room	Civic Garden Club
7)*	All Day	Education Building — Classrooms B & C	National Science Foundation
7)	9:30 a.m.	Education Building — Classroom A	Gloxinia Gesneriad Growers

*Members or Enrollees Only

Independent Scholars Roundtables

For people doing research or scholarship in any area.

Wednesday, Oct. 7, 7-8:45 p.m. . . . discussion of significance of Independent Scholarship with Dr. Richard Haight followed by discussion of I.S. needs and resources.

Wednesday, Nov. 4, 7-8:45 p.m. . . . a presentation by Dr. Philip Gordon, former director of the Academy for Independent Scholars on "Grantsmanship and the Independent Scholar."

Wednesday, Dec. 2, 7-8:45 p.m. . . . "Where do we go from here?"

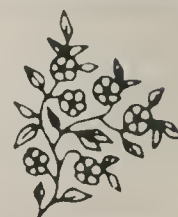
Meetings are free and open to the public. Please bring three stamped, self-addressed envelopes. All meetings are at:

Ross-Cherry Creek Library
Second floor meeting room
3rd and Milwaukee
Denver, Colo.

For more information contact regional coordinator Susan Spragg, 321-3597 (Denver).



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$15.00 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 10th of each month preceding publication. Editor — Margaret Wallace, 575-2547.



Save the Date!

Susan Leach of the Cloisters, the Medieval Museum of the Metropolitan Museum of Art in New York, will speak at the Gardens on November 16th at 10 a.m. Her topic is *Plants of the Middle Ages and Their Representation in Art*.

Tickets costing \$5.00 will be available at the Gift Shop or from any Garden Club member. More information in the next newsletter.

Orchid Hunter

What is the modern plant hunter like? For many years field trips have been reduced to a minimum and the hunter visits the herbarium to look at dried plants collected by someone else. But when I became interested in the serious study of Colorado native orchids about a decade ago, I realized that orchids were different, displaying characteristics only discernible in the field. In just the last four years I have driven over 25,000 miles entirely in the State of Colorado to look for orchids — and 10,000 miles of that was this year. I found several new stations of well known, but scarce, orchids. In several instances I found that large colonies no longer existed because other plants had crowded them out. In other cases the spread of human occupation had eliminated a certain species from that area.

Near Durango there was a large colony of *Corallorhiza maculata* var. *flavida* which I was able to photograph in prime condition; previously only a very few had been found near Boulder. But the most exciting find was on July 8th on the road to Long Draw Reservoir west of Fort Collins. It was a somewhat stunted orchid, tentatively identified as *Spiranthes graminea*, and blooming about a month earlier than has been normal for Colorado *Spiranthes*. (*Spiranthes graminea* normally grows in Central America and Mexico. In 1968 it was reported for the first time in the United States.) On July 23rd I went with Dr. Gambill, Director Emeritus of the Botanic Gardens, and Bill Jennings, who is also studying orchids, to Golden to see an orchid which had been thought to be *Spiranthes cernua*. We waded in up to four inches of water from Clear Creek and found a large, robust colony of *Spiranthes* growing there. To our surprise it too looked like *Spiranthes graminea*. Steve Blecher, another orchid enthusiast, has seen the Arizona orchids and he thinks the ones at Golden are the same. We sent a live plant to Dr. Charles J. Sheviak, Curator of Botany at the New York State Museum, who is now considered the best authority in the United States on *Spiranthes* and are awaiting his comments.

During the summer I have seen many plants which were not orchids and I plan to show pictures of these, along with some orchid pictures, to the Botany Club on October 16 in Classroom C at 7:30 p.m. All welcome.

Lu Long

Denver Botanic Gardens, Inc.
909 York Street
Denver, Colorado 80206
303-575-2547

TIME VALUE



October 1981

Address correction requested



“Glass at the Gardens”

The Glass Artist's Fellowship invites artists and patrons to view this year's exhibit, “Glass at the Gardens”, October 24 through November 1 at the beautiful Denver Botanic Gardens. The ten day exhibit of window panels, lamps, illuminated pieces, sculpture, blown and slumped glass art is open to the public from 9 a.m. to 4:45 p.m. daily. Over 115 glass artists participated last year with 200 pieces of artwork for sale.

Tempel Lecture on Wildflowers

Our own curator of the Rock Alpine Garden, Panayoti Callas, will present this annual lecture in remembrance of Dr. Carl Tempel. This year join us at 7:30 p.m. on November 3 in John C. Mitchell Hall. Bring your friends to this beautifully illustrated lecture.

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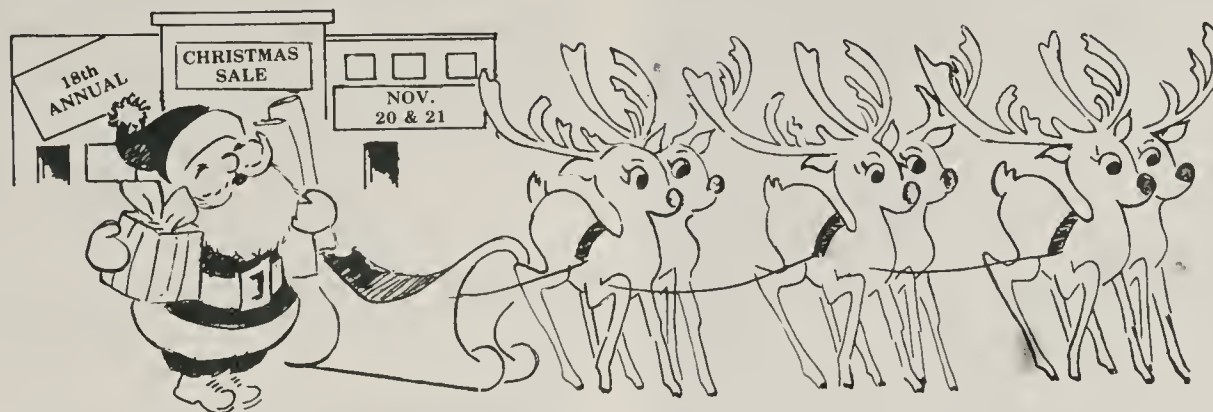
Green Thumb Newsletter



Number 81-11

November 1981

CHRISTMAS SALE — NOVEMBER 20 & 21



Sparkling new gift ideas mingle with traditional holiday favorites at the 18th Annual Pre-Christmas Sale here at Denver Botanic Gardens Nov. 20 and 21. Enchanting fragrances, zesty vinegars, treasured handcrafts and autumn harvests, — these combined with distinctive gifts from the Shop will offer one-stop shopping at Boettcher Memorial Center, 1005 York Street. Sponsored by the Associates, the sale will be held from 10 a.m. to 4:30 p.m. Friday and Saturday.

Yuletide Treasures. Banana leaf wreaths, sparked with exquisite silk flowers and other elegant accents, are new and exclusively ours. Traditional wreaths of cones and seeds vary from miniature to medium, are great for trimming the tree or to enhance a holiday decor. Also traditional is the sale of ornaments that graced the tree of Christmas-past. Collectors, especially, will seek the hand-molded and lace-covered eggs tastefully tied with pink or maroon satin.

Potpourri in 20 delightful fragrances has been tucked into sachets and pillows — child pleasers or nostalgia teasers. Tooth Fairy pillows are plump with Tutti Fruitti; Dressage will suite the man in your life; Orange Blossom appeals to romantics, or pick a pretty glass jar to add sparkle to a favored scent.

Rose petals from our Gardens, nearby Cheesman Park and volunteers' gardens have been gathered and dried, tossed with finest oils, herbs and spices, discreetly enhanced with fixatives to capture the aromas, and finally fashioned into charming sachets, tranquility pillows or boudoir pillows made of delicate fabrics, ribbons and lace. These are the happy results of endless volunteer hours.

Here, too, are found vanilla beans, herb salt spiked with a dash of paprika and frankincense and myrrh.

Herb Vinegars. More than 3,000 pints of herb and tarragon vinegars have been skillfully blended from a generations-old recipe. The herbs are planted, tended and collected by Guild members at their nationally-known herb garden, situated near Botanic Gardens House where these volunteers bottle this popular gourmets' delight.

Everlastings in flowers, cones, pods and other dried natural materials are found at the Around the Seasons booth. Long-stemmed pussywillows are in the spotlight along with such outer-space items as stars-over-Persia; silver-moon money plant; star-studded stems of gasplant. Perky go-together flowers of golden yarrow, blue salvia, dainty strawflowers are only a few of many sought-after supplies for do-it-yourself craftsmen.

Children's Gifts feature Moon Babies, cuddly dolls riding satin moon pillows; *Audubon Bird Coloring Books*; *Peter Rabbit's Natural Foods Cook Book* with edible recipes to encourage a novice chef; Beatrix Potter's cherished figurines, calendars, books and puzzles and much more.

Jewelry. Lustrous amber with botanical inclusions has been polished and crafted into rings, necklaces and bracelets. Jade is in jewelry and carvings; cloisonne (some antique) is offered in bracelets, pendants and exquisite vases. Chinese jewelry is available in enamel and cloisonne.

Gifts for Garden or Lanai. Wind chimes in brass — birds, sailboats or sand dollars; copper Bells of Sarna; Kanterbury Karillion Chimes, handpainted ceramic bells with flowers or insects; triple-tone wind bells made in Colorado Springs and "guaranteed to rust," to form a rosy patina. These are offered in three sizes and may be ordered and mailed directly from the craftsman. Handcast, handpainted porcelain hummingbird feeders, some glazed, others unglazed are new from Capistrano Beach, CA. Statuary by Isabel Bloom endures weather — child sniffing a flower, reclining child, rabbits, kittens, fawns and other adorable subjects.

Gifts for Home. Classical clowns, gallery birds and musical birds are handpainted ceramic accessories by Gorham; lead crystal paperweights from England, faceted crystal sun-catchers, Flower Fairy plates in six limited editions. Delightful for home library or office are llamas, rams, a giraffe with infant; laser-carved walnut book ends and desk accessories. Matted reproductions of mushrooms in pastels are signed and in limited editions. Stunning kaleidoscopes of pressed flowers in leaded glass are the artistry of Judy Wisdom, a Greeley resident.

Books and Stationery. Among the beautiful books are *The Country Diary of an Edwardian Lady*, written and illustrated in 1906 but recently republished; *Nature Diary* by Janet Marsh, exquisitely illustrated, it considers mysteries of the natural world. Subjects of local interest cover wildflower identification, landscaping for this area, geology and nature trails, all by Colorado authors. Lovely pressed flower notes, floral notes and papers have been gift-boxed by Waverly and rich holiday gift wraps include matching ribbons.

Truly, a gift from the Gardens is a gift to the Gardens, for all proceeds benefit Denver Botanic Gardens (and don't forget gift certificates and gift memberships are also available).

Tempel Lecture

Panayoti Callas, Curator of the Rock Alpine Garden at the Gardens, will present the annual Carl Tempel Lecture. His illustrated lecture entitled "Colorado Wildflowers—Native and Semi-Native" will compare the plants in their natural setting with their growth habit in the garden. Mr. Callas will also discuss techniques for growing the wild flowers. This will be held in the John C. Mitchell Hall on November 3rd at 7:30 p.m. All welcome without charge. Bring a friend for this most enjoyable evening.



Endangered Plant Found!

The beautiful Tulip or Prairie Gentian (*Eustoma grandiflorum* (Raf.) Shinn.) with its large cup shaped deep blue flowers was fairly common a generation ago in damp areas on the plains from eastern Colorado to Nebraska and south to New Mexico and Texas. Now, principally because of commercial and agricultural development of land areas that have been its habitat, the Tulip Gentian is considered endangered in Colorado. But one exciting day in late July of this year, Joan Franson, President of the D.B.G. Associates, discovered a colony on a vacant city lot, just off I-70, in Wheat Ridge. A few lucky D.B.G. members were able to see and photograph this rare and beautiful plant. The owners are now developing the lot and they have been most cooperative in helping the Botanic Gardens obtain seed and plants. Panayoti Callas, Curator of the Rock Alpine Garden, hopes to be able to propagate the Tulip Gentian as a garden flower. However, more information is needed about its native habitat and the type of plants with which it grows best. Does anyone know of a forgotten corner of a meadow, railroad right-of-way, or other spot where it can still be found? If so, please call Panayoti Callas at the Botanic Gardens, 575-2548, or Mary Edwards, 233-8133.

Botany Club, November 20 at 7:30 p.m. Classroom C
"California Wild Flowers" presented by
Dr. Richard Schwendinger

Rare Plant Conference

The third Rocky Mountain Regional Rare Plant Conference, entitled "Energy Development and Rare Plants; Planning for the Future" will be held November 5th and 6th at the Denver Botanic Gardens, John C. Mitchell Hall, 1005 York Street. The conference will provide information on federal regulations affecting rare plants, sources of rare plant data, and methods to reduce or eliminate potential conflicts surrounding the development of natural resources and the retention of rare plants or unique ecosystems. In addition, representatives from each of the states will give an update on activities in their state.

We encourage you to register early for this productive conference. If you have any questions please feel free to call Jacquie Lansing (303) 234-6443 or Scott Peterson (303) 623-1913. Pre-registration is requested: \$10 General Admission, \$5 Denver Botanic Gardens or Native Plant Society Members or for Students.

Registration materials will be sent to you upon receipt of the registration fee. Please mail fee to:

Colorado Native Plant Society
Rare Plant Conference
P. O. Box 200
Ft. Collins, CO 80522

Classes

Beginning Wheat Techniques is full. If you have signed up, please bring embroidery scissors and a terry cloth towel and meet Mrs. Kline at 9 a.m. on November 5 in Classroom B.

Interested in growing ferns, preparing attractive holiday beverages, want to know more about plants at this holiday time? Watch for the *Winter List of Classes* which should be arriving at your homes around Thanksgiving.

Free Film

House Plants, Indoors/Outdoors will provide ideas for decorating with plants plus information on varieties, potting, watering and light. All welcome on November 14, 1:30 p.m., Classroom C.

North American Diploma in Horticulture

Persons who are able to demonstrate an in-depth theoretical and practical knowledge of horticulture will have the opportunity to obtain the North American Diploma in Horticulture (NADH). The NADH is the highest of four levels of a professional certification program recently established by the American Association of Botanical Gardens and Arboreta (AABGA). Dr. Erich Steiner, Chairman of the NADH Program and Professor of Botany at the University of Michigan, explains that this program of certification is intended to provide an internationally recognized standard of competence in horticulture apart from the traditional avenue of higher education.

For further information write to Carol Smith Schutz, Executive Director, American Association of Botanical Gardens and Arboreta, Box 8044, Charlottesville, Virginia 22906.

(Editor's note: Two employees of the DBG have recently passed the written half of the examination and will take the practical exam later. Congratulations to Susan Praetz and David Savory.)

Something new

Members may have already called the Gardens and learned that a general information recording of hours, events, etc., is now answering on 575-2547. If you wish to talk to a staff member on other matters, please dial 575-2548.

Welcome New Members

Doug and Susan Adams
 Darlene Alcott
 Mr. & Mrs. James B. Allen
 A. N. & Marjorie Armitage
 Margaret Ashworth
 Thomas & Carolyn Baker
 Brenda L. Barcus
 William Barton
 Mr. & Mrs. William H. Boswell
 Judith H. Bourke
 Darcy Brannigan & Family
 Angela Brummert
 Mr. & Mrs. Robert J. Buchanan
 Ray E. Buchner
 Dolores Bustamante
 Dennis N. Carnes & Family
 Ron & Sherry Chadwick
 Mr. & Mrs. Barkley L. Clanahan
 Lance C. Clem
 Jane L. Cohen
 Bro. Jack Conlin
 Sean Darnall
 Rita F. Davis
 Dr. & Mrs. W. Grayburn Davis
 Maggi DesJardins
 Mrs. Richard J. DesJardins
 Mr. & Mrs. Robert Dickler
 Mary E. Diehl
 Mr. & Mrs. Greg M. Dowdy
 Mr. & Mrs. W. J. Ehrenkrook
 Judy Elliott
 Rosemary Ellis
 Hananyah Elron
 Ruth Engel
 Sandie Erskine
 Linda Fellion
 Beulah M. Fleet
 Grace M. Gable
 Kristen Gary
 Richard K. Gaskie
 Tom D. Geer
 Marie Gering
 Phillip E. Goodin
 Mollie B. Graves

Marilyn Greb
 Alice Gruber
 Virginia O. Hansen
 Col. Milton H. Hawkins
 Doris M. Hayutin
 Joyce & Paul Hepokoski
 Caroline Heslop
 G. Thomas Heuer
 Mrs. Shirley A. Hinz
 Kathy Hodges
 Fred & Mary Hothan
 Mr. & Mrs. John Imbergamo
 Eva J. Ingebritson
 Mr. & Mrs. Ted Jennings
 Carl Jerome
 Mr. & Mrs. Ronald T. Johnson
 Nan M. Keiper
 Dorothy Keiss
 Dr. & Mrs. Richard Kelmanson
 Mrs. C. R. Kendrick
 Jean Klein
 Janice Lawrence
 Penny B. LeMaster
 Donna L. Linnecke
 Peter F. Long
 Kirk Lunday
 Alan W. Lutz
 Ray D. Lyons
 Bruce & Vicki Lytle
 Linda Ann McKee
 Thomas & Linda Mahoney
 Margaret M. Malloy
 Mr. & Mrs. Walter Marner
 Dr. & Mrs. Robert J. Mason
 Men's Garden Club of Littleton
 Mrs. H. William Milam, III
 Mrs. Audrey A. Millar
 Mr. & Mrs. William A. Moren
 Dennis L. Morgan
 Donna Myers
 Mary S. Newman
 Laurel A. O'Brien
 R. S. Palmer
 Josephine A. Parrott
 Margaret Pasternak
 Mr. & Mrs. Brian Paulson

Richard J. & Nancy N. Pautsch
 Mrs. Frank Philippe
 Hartley K. Phinney, Jr.
 Mr. & Mrs. Robert J. Pietlock
 Mr. & Mrs. E. A. Pinson, Jr.
 Mr. & Mrs. William J. Pollack
 Bernadette M. Ponton
 Dorothy H. Pooler
 Dr. & Mrs. James Quinby
 Olga Reitz
 Elizabeth H. Reynolds
 Mildred L. Robinson
 Rosamond Park Garden Club
 Susan J. Ryke
 Ruth G. Saiber
 Suzanne A. Sandy
 Jane Saul
 David A. Savitz
 Mr. & Mrs. Charles Schayer, III
 Mr. & Mrs. Frank B. Schweitzer
 Mr. & Mrs. Robert J. Shea
 K. H. Shing
 Lee Smedley
 Mr. & Mrs. E. J. Snyder
 James J. Soukup
 Barbara Stafford
 Helen Stavig
 Molly Stearns
 Lois H. Strohm
 Gregory B. Swisher
 Mary E. Thomas
 Joan Tidwell
 Robert V. & Debara Torbenson
 Mr. & Mrs. Dean Trautner
 Sylvia D. Troy
 Christine Vandepol
 Vicki Wagner
 Mr. & Mrs. Michael Walton
 Larry White
 Don & Pat Wiederspan
 Lawrence Williams
 Marjorie E. Willis
 Bill Wingle
 Barbara A. Wolff
 Mr. & Mrs. Paul Woolsey
 Byron Zook
 Elaine Zimmer

Tributes

In memory of Albert (Fritz) Frei
 Mr. and Mrs. Fred C. Vetting
In memory of Benjamin A. (Rete) Kiplinger
 Mr. and Mrs. Fred C. Vetting
In memory of Mrs. Pauline Littell
 Fran and Ned Marshall
In memory of Helen L. Olsen
 Clara L. Clark
In memory of Norman F. Patrick
 Bethesda Hospital
 Board of Trustees, Denver Botanic Gardens
 Dr. and Mrs. Moras Shubert
In memory of Dr. James M. Shields
 Mrs. F. V. Altvater
In memory of Mrs. F. H. Sterne
 Anonymous
 Mr. and Mrs. Kenneth Adams
 Mrs. Delone Biddle
 Miss Vivian Bizeau
 Mr. and Mrs. George Collins
 Mrs. Mabel L. Dakin
 Franklin Graphics
 Mr. and Mrs. Daniel Grist
 Miss Helen Gritzmacher
 Bertha H. Funnell and sisters
 Mr. and Mrs. Thomas W. Gent, Sr.
 Beatrice S. Hasenflug
 Mr. and Mrs. Mike Joyce
 Mrs. Mary Kleinofen
 Mr. and Mrs. Jim Low

Mr. and Mrs. George E. Mitchell
 Mr. and Mrs. James Muller
 Mrs. Mabel North
 Mrs. Edward Noyd
 Mr. and Mrs. Albin Peterson
 Mrs. Carol Peterson
 Miss Mildred Pierce
 Rev. and Mrs. Ralph Revere
 John P. Riley
 Bessie and Elizabeth Schultz
 George Slavin
 Mr. Harry E. Stabler
 Dr. and Mrs. William H. Stahl
 Rev. and Mrs. J. Charles Stern
 Rev. and Mrs. Merold Stern
 Mr. and Mrs. Harold F. Stoddard
 Mrs. Florence B. Sweetland
 Mr. and Mrs. Philip M. Taylor
 Mr. and Mrs. John L. Tschupp
 John Wentzel
 Mrs. Anna J. White
 Mrs. Eleanor Worden

Contributions of cash, goods or services have been received from the following friends:

Denver Bonsai Club
 Carolyn L. Crawford
 Crestmoor Park Garden Club
 Mary Ann Heacock
 Larry Latta
 Ms. Barbara Martinson
 Mr. L. C. McCaskill

Gardening Tips for November

It has been noted that new memberships at Denver Botanic Gardens have increased considerably during this past year. Perhaps now is a good time to repeat some tips for new gardeners about the challenges of gardening in Colorado.

Newcomers to Colorado are often perplexed in their efforts to get plants to survive, much less thrive in Colorado. Some are puzzled, particularly if they are from the northern states, why certain trees that formerly would grow well for them do poorly in Colorado. After all, isn't Minnesota just as cold as Colorado?

The mistake often made by new comers is to assume that temperature is the major factor that determines plant survival. Cold temperatures, however, are rarely the big problem. More common are the dry soil conditions of the winter months, the low humidity and the desiccating winds. In other words, winter drought conditions generally affect the plants more than cold temperatures. There have been exceptions, of course, such as the fall of 1969 when a sudden temperature drop caused considerable damage. But this was the exception — not the rule. The desirable shirt-sleeve weather often encountered during the winter months is nice for us, but is often devastating to some of the plants we try to grow. The low humidity and the bright intensity of the sun combined, make the growing of broad-leaved evergreens difficult to do. Our alkaline soils in most parts of the state further limit some of the types of broadleaved evergreens that can be grown. Don't get me wrong. You can if you try, grow azaleas and rhododendrons provided you select the right types. There are some excellent examples of rhododendrons and azaleas growing at the Denver Botanic Gardens but they are in locations where they are shaded from the winter sun and are growing in literally man-made organic acid soil.

Most of us have to cope with a heavy clay soil with poor drainage and high in soluble salts. (That's the white stuff you see on the surface.) Our soils are usually high enough in calcium readings to limit the availability of some of the important nutrient elements such as iron, phosphorus and sometimes zinc. Such conditions are not easy to change and it is usually better to select plants that will fit the soil rather than to try to modify the soil. This may mean planting Russian-olive rather than pin oak or a lilac rather than a rhododendron.

This may all sound bleak to a newcomer but let's look at the brighter side. In Colorado, due to a higher light intensity and

lower humidity, we have fewer problems with diseases, we can grow the best bedding plants in the world and garden perennials thrive with very little soil improvement.

As to trees and shrubs, there is a wide selection but some of these may require getting used to or developing an appreciation for. Some of the shrubs that will take our poorer soils and brighter exposures have much aesthetic value. Take for instance, the Apacheplume, *Fallugia paradoxa*. Here's a plant that has rather skimpy foliage, as many plants in arid climates have, but it has large, showy, white flowers in early summer, a graceful arching growth habit and plummy seed heads in the fall and winter months that make it a unique plant for the home landscape. The native potentilla, now available in both white and yellow flower forms, doesn't just produce flowers for a short period in the spring like an azalea or a lilac, but gives an abundance of flowers through the summer months. The "lowly" tree-of-heaven, sometimes referred to as the tree that grows in Brooklyn, has long been considered a weed tree by many. In Colorado, however, it has much going for it. What other tree will take smoky city conditions in stride, lose its leaves early enough that it never runs into an untimely snow-storm and produces crimson, winged seeds in the fall for a spectacular show? Not only that, it will grow in most any soil in which it is planted and it can also take the overwatering process of the average lawn.

There are, of course, many other examples and additional information can be obtained by perusing through the Denver Botanic Garden's library or by requesting leaflets from your county Extension office.

The key to successful gardening in Colorado is to recognize first of all that it is different from where you were before and to meet the challenges by developing an understanding of the soil and learning a little bit about our climate. There are no problems with finding attractive plants to fit the situation.

The best place to start is with the soil. A free leaflet available from your county Extension agent or from this author, in care of the Denver Botanic Gardens is available. "Soils, The Key to Successful Gardening", is the name of the publication and would be worthwhile reading. Another leaflet you may wish to have in your gardening library is, "Gardening in Colorado a Challenge to Newcomers". This too is available from your Extension office or from this author.

HAPPY THANKSGIVING!

Dr. J. R. Feucht

Denver Botanic Gardens, Inc.
909 York Street
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November 1981

Address correction requested

LIBRARY LINES

VOL. 4 - NO. 5
November, 1981

A BIMONTHLY NEWSLETTER OF THE HELEN FOWLER LIBRARY OF DENVER BOTANIC GARDENS

Crum, H.A. & L.E. Anderson. MOSES OF EASTERN NORTH AMERICA. 2 Vols., N.Y., Columbia University Press, 1981. \$60.00. QK 541 C786 1981.

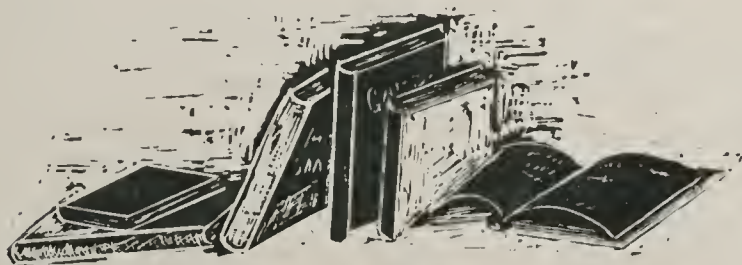
This monumental two-volume work represents the most comprehensive treatment ever published of the taxonomy and distribution of the mosses occurring in the west area of the Eastern Deciduous Forest and adjacent regions in North America. It is a culmination of decades of work in the field, herbarium and laboratory by two of the country's most distinguished bryologists. Begun as an attempt to correct and modernize the long-used but sadly out-of-date Moss Flora of North America by A.J. Grout (publ. 1928-36), the work has emerged as a complete rethinking of the taxonomy of the "eastern mosses". The comprehensive bibliography of some five-hundred titles, a valuable contribution in itself, is indicative of the extent to which Professors Crum and Anderson consulted and weighed all the significant studies carried out by other workers on these moss taxa here and in numerous other countries.

The publication is profusely illustrated by superb line drawings most of which are new. An exhaustive glossary of terminology used in bryological studies will be of great assistance to students of mosses. Keys are provided to genera and species of each family.

Colorado botanists will be interested to learn that this book will be extremely usable in the study of mosses of the Rocky Mountains.

Many of our moss taxa are widely distributed in the Northern Hemisphere. Great topographical and vegetational diversity are encompassed within the Eastern Deciduous Forests as represented, for example, in the Adirondack and Appalachian Mountains and the Great Lakes Region. All this means that many taxa and habitats favorable to their growth are common to significant areas of the Rocky Mountains and Eastern Deciduous Forest region. Hence this is a valuable reference tool in Colorado.

Dr. William B. Gambill, Jr.
Director Emeritus



Miller, Orson K. and Hope H. Miller, MUSHROOMS IN COLOR. N.Y., Dutton, 1981. \$11.50 QK 617 M443Mu 1980.

The attractive and convenient format of 286 pages is dedicated to the amateur collector. Many common mushrooms are described in nontechnical terms with important identifying characteristics indicated by arrows in the excellent color photographs.

There are tables giving habitats and comments on preparation and preservation of edible species. A brief outline of mushroom toxins is given and differences in certain look-alike species are included along with keys to major groups. A few hallucinogenic species are described, but some commonly found edible and toxic families are not included. It is an easy-to-understand book with pen drawings showing mushroom anatomy. Metric measure is used with a conversion to inches ruler printed on an inside page.

George L. Grimes

Ingwersen, Will. ALPINE GARDEN PLANTS. Dorset, Blandford Press, 1981. \$6.95. SB 421 I545Al

Sometimes it seems that every new gardening book that comes out is little more than a rehash of old gardening books with the same old cliches, the same old errors and very little new or fresh information. Readers who are content with this sort of book may not be particularly struck with Will Ingwersen's Alpine Garden Plants. The style of writing is plain and simple--no Farrer-like similies and contorted sentences. Every sentence reflects knowledge gained from cold frames, potting benches and greenhouses where generations of Ingwersens have grown countless rare plants that have found their way to gardens worldwide. When Mr. Ingwersen speaks of Mt. Ararat, Mt. Rainier, Central Asian peaks or valleys in the Dolomites, he speaks from personal experience. Enthusiastic alpine gardeners will insist on the encyclopedic and expensive Ingwersen's Manual of Alpine Plants. This smaller volume includes the more common alpine and many of the rarer sorts just getting into cultivation. The short description of each plant seems to capture its essence. This kind of book is the fruit of an eminent plantsman who is not just the proprietor of Birch Farm Nursery south of London, but the current president of the Alpine Garden Society.

Panayoti Callas

Riotte, Louise. CARROTS LOVE TOMATOES: SECRETS OF COMPANION PLANTING FOR SUCCESSFUL GARDENING. Charlotte, Vt., Garden Way Pub., 1975. \$5.95. SB 321 R565.

Companion planting is a controversial subject but for those who are seeking more information about a variety of plant combinations and organic pest control, perhaps this is one book which should be rated personally. This book is in its tenth printing. The dictionary arrangement of common names is followed by genus and species and a short article containing all sorts of curious and useful information. Suzanne Lippolis

Raymond, Dick. DOWN-TO-EARTH VEGETABLE GARDENING KNOW-HOW. Charlotte, Vt., Garden Way Pub., 1975. \$4.95. SB 321 R40.

Much of the information in this vegetable gardening book seems to be the same type which one receives through the U.S.D.A. Extension Service which usually provides more localized information. Mr. Raymond provides a warm approach to his illustrations and photographs but the subject is not more than superficially covered in this presentation of gardening techniques. S.L.

Bartholomew, Mel. SQUARE FOOT GARDENING. Emmaus, Pa., Rodale Press, 1981. SB 321 B3786.

This book describes another method of intensive gardening and includes special significance for community gardens, rooftop planters and limited space gardening. The ideas are innovative, well worth considering and adapting to specific needs. S.L.

Halpin, Anne, editor. GOURMET GARDENING. Emmaus, Pa., Rodale Press, 1978. \$9.95. SB 324.3 G6875.

The Rodale Press has been funding research on vegetables which are not well known in the United States. 48 vegetables which can be grown in a backyard garden are reviewed. For each there is a sketch of the plant, a brief description, historical facts, methods of cultivation and harvest. Gourmet recipes follow. Any drawback the plant may have is explained. Seed company addresses are given as sources of these different food substances. S.L.

Lansky, Bruce et al. editors. FREE STUFF FOR HOME AND GARDEN. Deephaven, Minn., Meadowbrook Press, 1981. \$2.95. AG 600 F7440.

350 free items are featured in sections for the home, outdoor gardening, hydroponics as sample categories. This paperback could serve as a beginning tool to find free information as well as samples of products at no cost except that of requesting the item.

S.L.

Verey, Rosemary. THE HERB GARDEN BOOK. Boston, Little Brown & Co., 1980. \$6.95 j SB 351 H5 V474.

Well organized and simply written, this book appeals to juvenile and adult initiates in herb growing. Included are simple descriptions of a number of herbs, their cultivation, growth habits and designs for indoor herb gardens. This information is accompanied by colorful, explanatory pictures. Directions are given for sowing seed, propagating cuttings, making rosehip tea, pomanders, etc., step-by-step. Essential information on soils, composts, pest control is also included. As a beginning book on herb gardening, the author succeeds in making a lot of necessary information available to the gardener. Katie Palmer

Wildsmith, Brian. BIRDS. N.Y., Oxford University Press, 1980. \$3.95 j QL 676.2 W5637.

In his clever caricatures of several common birds, Mr. Wildsmith has caught some of their strange and humorous characteristics: the steady fixed stare of the owl, the odd and peculiar haughty look of the bittern as it hides in the cattails, the strutting stride of the snipe, that very dignified look of the penguins at a formal gathering, the watchful eye of the pheasants in sharp contrast with the jays enjoying a party with little fear of anyone watching. Though his efforts seem to be just for fun, he shows an understanding of bird habits.

Hazel Kellogg

HERBS, FROM CULTIVATION TO COOKING. Gretna, Louisiana, Pelican Pub. Co., 1979. TX 801 H4838.

The Herb Society of Greater Cincinnati has compiled this attractive and innovative herb cookbook which will add flair to any kitchen library. The recipes cover a large range of delectables from appetizers, soups and salads to main dishes, dessert, jellies and beverages. Although some information is included on culture, the larger portion of the book is devoted to recipes. K.P.

Green Thumb Newsletter



Number 81-12

December 1981

ADMISSION FEE IMPLEMENTED

For the Person Who Has Everything

Denver Botanic Gardens

This card entitles the owner to all Denver Botanic Gardens privileges and is not transferable

Membership Expires

Merle M. Moore
Director



Family
Member

Give a gift membership to the Denver Botanic Gardens. Various categories of membership are available ranging from Student and Senior Citizen at \$10 to Benefactor at \$1000. Many benefits accrue including free admission, opportunity to check books out of the Helen Fowler Library, discount on classes, a monthly newsletter with gardening tips and the scheduled events of the month, and a quarterly publication with interesting and information articles of general interest. For further information please call 575-2548.

MEMBERS ADMITTED FREE

STATE FUNDING WITHDRAWN With the loss of \$166,000 in State funding, the Botanic Gardens has received an operating budget from the City and County of Denver that is 22% below the requested amount. The Board of Trustees regrettably have been forced to propose admission fees that will help to recover the withdrawn funds. Recently the Executive Committee submitted a proposal for the implementation of admissions fees for visitors to the Gardens, effective January 1, 1982. Implementation of the recommendations in the proposal is contingent upon the necessary ordinances being passed by the Denver City Council. Various recommendations have been put forward including reduced fees for senior citizens and students, allowances for persons enrolled in educational classes, certain free days during the year, etc.

MEMBERS FREE

Our *Members* will be admitted to the Gardens *free* upon showing a membership card at the gate. We anticipate an increase in membership, due to the admission fee policy, which will allow continuing growth and development of the Gardens and our programs in spite of the serious budget cuts.

GIFT MEMBERSHIPS

A gift of Botanic Gardens membership at this season will not only help the Gardens grow but also will give the recipients of the gift *free* use of the Gardens throughout 1982.

January Newsletter — more complete details of the new fee structure will be given in the January Newsletter.



Special, For Members Only!

Watch for a mailing that will inform you of the Holiday Celebration on December 13 planned just for members.

Gardening Tips for December

December is hardly the month to think much about gardening, at least out-of-doors, but maybe it is a good time to sit back and think about some of the old gardening wives' tales since almost every aspect of living is subject to old wives' tales and gardening is no exception.

One that has been perpetrated down through the years, not just over the back yard fence, but sometimes in even rather scientific literature, is the notion that sap goes down in the tree in the fall and comes back up in the spring. This wives' tale probably came about by the observation that in the very early spring, certain kinds of trees begin to ooze a syrupy liquid. Anyone living in Vermont or other northeastern state is well acquainted with tapping of sugar maple trees for their sugar-containing sap. Unfortunately, what we observe from the outside is only from our perspective and not from what is actually occurring inside the tree. It is somewhat like the commonly used statement that the sun rises from the east. It does so only from our perspective but not in actuality.

What actually happens with sap in trees in the fall of the year is that it changes chemically into what is basically stored food, some of which goes to the roots, but a high percentage stays right where it is. These chemical changes also enable the cells of the tree to survive the cold winter without undergoing a freeze injury. In the spring of the year, as the soil warms, there is a chemical change that reverses the process and stored food, mostly starches, converts back to sugars. In the process of this chemical change, a pressure is developed within the plant, resulting in an oozing from wounds, or the so-called "bleeding". It is not, however, the result of a rising of sap from the roots.

Another old wives' tale perpetuated by many is that droplets of water on a plant will be magnified by the rays of the sun and will cause a burning of the foliage. This has been scientifically proved to be false but scientific proof should not be necessary when logic tells us that if the sun's rays magnify the droplet of water, the water would have boiled away long before, making it impossible to have burned the foliage. Anyone who has used a magnifying glass will also know that the lens has to be held a given distance away from an object before the rays are concentrated enough to cause a burn. A droplet of water is in intimate contact with the leaf and if anything, the droplet would concentrate the rays at a point some distance below the leaf.

Along these same lines is a common belief that sun reflecting off of snow can burn the foliage of an evergreen. While there is a so-called "reflection burn", it is not a true burning in the sense that the sun develops enough heat to actually burn the foliage, but what actually happens is that the foliage dries up or desiccates. It is usually a combination of bright sun activating some of the cells of the evergreen foliage and a cold, drying wind that saps the water out of the plant.

An unfortunate term used in common, everyday horticulture is "sunscald". Sunscald is a condition that occurs primarily during the months of January, February and March. It is not a scald from the sun but much like sunburn from snow reflection, it is a desiccation of some of the cells of the bark of a tree; usually on the southwest side. In spite of its name, sunscald is actually a freeze injury caused when the sun warms up the southwest side of the tree, causing metabolic activity in those cells, then a sudden temperature drop in the evening results in the freezing of the cells.

This leads to another old wives' tale that freeze injury is the result of bursting the plant's cells. It has been found true from careful studies that when cells of a plant begin to freeze, water may be drawn out of the cells, forming ice crystals between the

cells. Contrary to common belief, however, ice crystals do not rupture the plant's cells; rather, the freezing process causes dehydration. In a sense, freeze injury, winter sunburn and sunscald are all dehydration processes. The names given to these phenomena have resulted in misleading deductions as to what causes them.

There are many other old wives' tales in gardening literature such as the thick skin of an onion indicating we're in for a hard winter, when, in fact, it is more the result of a lack of sufficient moisture at the end of the growing season. That sweetpeas should be planted on St. Patrick's Day should only serve as a reminder that they must be planted early. A few days one way or the other will make no difference as far as being successful is concerned. These along with the old wives' tale that certain vegetables should be planted in certain phases of the moon, are really the result of human logic applied to a natural phenomenon.

—Dr. J. R. Feucht

Free Film — “Azalia Trails — U.S.A.”

Join us on December 12 at 1:30 p.m. in Classroom C and you will tour some of America's finest azalia gardens: Bellingrath, Magnolia Gardens, Cypress Gardens and Middleton, to name a few. Free and all welcome.

Tributes

In memory of Ruth Christie Bolin
Bernice Millard

In memory of Mrs. Donald F. Brown
Mrs. Baxter Lanis

In memory of Robert Joseph Copley
Norma L. Kenshalo

In memory of Winifred Egan
Sarah and Bob Hite and family
Mary Ellen McCullough
Bernice Millard

In memory of Margaret Janosky
Mary A. Lynch
Betty Rorke

In memory of Sidney Jones
Morning Belles Garden Club

In memory of Norman F. Patrick
Bernice Millard

In memory of Mrs. F. H. Sterne
Allied Business Forms
Mrs. Lynne Corgey
Carl and Lucille Friberg
Mrs. J. Owen Gummoe
Mrs. Robert Kispert
Mrs. J. E. Maher
Mrs. Kathryn E. J. Oliver
Rev. Stanley F. Taylor
Pawnee and Walter Williams

In memory of Peter Tanda
Patsy J. Skrabanek

Contributions of cash, goods, or services have been received from the following friends:

Bill Arp
Mrs. Marjorie W. Baird
Capitol Heights Pharmacy
Edward B. Horton, Jr.
Raymond P. Oglesby

Around and About the Gardens

As you stroll through the gardens this winter, take a walk through the new rose garden. Once there, I'm sure you will notice the absence of our old friends the rose cones. After several years of using this method of winter protection, I have come to the conclusion that such drastic methods are not really necessary in our area. This year we are returning to more traditional methods of protecting our Hybrid Tea, Floribunda, and Grandiflora roses.

There are three basic steps in giving Hybrid Tea, Floribunda, and Grandiflora roses winter protection:

1. Sometime in late Oct. - early Nov., when your roses have stopped blooming, prune each plant back to not less than one and one-half feet tall. This will minimize wind damage without increasing the normal winter die back.
2. Before Dec. 15, remove all leaves and debris and apply 3-4 inches of suitable mulching material. If you prefer, mound soil or mulch to a depth of eight inches around each plant. Mulching is very important as it helps keep the soil at a more uniform temperature and thus reduces the possibility of early growth that might be injured by late freezes. It also helps the soil retain moisture and due to our dry winters this is especially valuable. Bringing in extra soil or mulch to mound around your plants is a very effective method of winter protection and in most cases will be all the protection needed.
3. When the temperature drops to 20°F for several consecutive nights, it is time to give your roses maximum protection. Methods include the use of discarded Christmas trees, rose cones, burlap, and leaf mulches.

Discarded Christmas trees and evergreen boughs will protect the plants from the most severe winter weather and at the same time add pine needles, which lower our normally high pH factor. Rose cones have been used for a number of years at DBG, and are an effective method of protecting against die back in areas where sub-zero temperatures are the norm. Here in the Denver area they may actually do more harm than good. With the use of cones, severe fall pruning, often leaving only 4-6 inch canes, is necessary in order to fit the cones over the plants. Such drastic pruning has an adverse effect on many varieties of Hybrid Tea, Floribunda, and Grandiflora roses. Draping burlap over your roses is also an effective method of protection, especially if your plants are in planter boxes or are surrounded by concrete or brick. Roses in these situations are more susceptible to freeze damage and mounding combined with burlap is a good way to minimize such damage to the roots.

To protect miniature roses and recently planted shrub roses, evergreen boughs and mulches are very effective. Climbing roses may be protected by simply tying them securely to their supports and lightly mulching the base.

—Joann Narverud

Postcard From China

Andrew Pierce, our Assistant Director, recently received a card with the following message: "I am now in Kan-ding, China, the famous Ta-Chien-Lu of E. H. Wilson's time . . . collecting seed, most of which will go to Kew. Our group of 20 has been allowed into an area no foreign botanist has seen since Joseph Rock. Kim Sorvig" (Editor's note: Kim Sorvig was a Conservatory guide of a few years ago and is currently enrolled at Kew Gardens as a horticulture student.)

Welcome New Members

Mrs. L. F. Abrums
Mr. & Mrs. David G. Allie
Melanie Ancin
Barbara Appleby
Ann B. Armstrong
Mr. & Mrs. Hugh Baird
Charles W. Berberich
Margaret A. Bernens
Mary Ellen D. Beusse
Mr. & Mrs. Mike Blair
John Phillips Bostic
Bruce D. Bradley
Mr. & Mrs. Hugh E. Bradley
Grace J. Brickner
David Brozovsky
Nancy M. Burns
Mrs. Arthur H. Bush
Janet Cedervall-Smith
Mr. & Mrs. William F. Chapman, Jr.
Ms. Carol M. Coe
Mr. & Mrs. James Cowdery
JoAnne Davis
Danny & Ruthie Depue
Joseph Dionne
Mrs. Ruth W. Ellis
Mr. & Mrs. Charles E. Fiske
Mrs. Alfred W. Gardner
Barbara C. Gaut
Helen Glasper
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Mr. & Mrs. Alfred B. Hess

Mr. & Mrs. Howard Hickman
Linda M. Hoffman
Everett E. Holt
D. W. Hughes
Mrs. Sherry Hunt & Family
Julio Iturreria
Mrs. Eligio Jacquez
Diana Janezic
Dr. Robert R. Janowski
Betty E. Jones
Mr. & Mrs. Paul L. Kalmar
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Rhonda L. Kellerman
Stephen B. Kenney
Earl J. Klingensmith
Naomi K. Lasater
Mrs. Martha C. Laubenheim
Richard J. Lietz
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Nancy McKinnie
The Donald S. McPhail Family
M. W. Macey
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Patricia Marshall
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Mr. & Mrs. Kurt Mellinger
Mr. & Mrs. Stephen J. Miller
Donald B. Moore
Phyllis Morton
Marilyn Munsterman
Patricia J. Neeley

James H. Neymeyer
Mr. & Mrs. George F. Noe
Scott Novovesky
The Robert J. O'Neill Family
June W. Osmond
Linda J. Parsons
J. Scott Peterson
Alvin & Judy Phillips
Susan Powers
Ruth Randolph
Frances Reavis
Rebecca Robinson
Edythe G. Rossi
D. & D. Scarbeary
Richard Shackelford
R. Leslie Shader
Liz Sharrer
Marcus A. Shelley & Family
Gary & Sherry Shiminsky
Elizabeth R. Sperry
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Mrs. Barbara J. Tanton
Maria Elena Taylor
Will & Hilary Thompson
Zane Tuta
Mary Valdez
Mr. & Mrs. Robert T. Vance
Miss Margaret Watson
Carolyn Weaver
Sioux Wehrspann
Janice J. Welton
Gary Wermerskirchen
Ronald Wilson
Laura Yerkovich

Calendar of Events



December 1981

- | | | | |
|------|------------|---------------------------------------|-------------------------------------------------------------------------|
| 1)* | 9:00 a.m. | Education Building — Classroom B | “Hardy Ferns” — Mr. Panayoti Callas |
| 1)* | 1:00 p.m. | D.B.G. House — Dining Room | Editorial Committee Meeting |
| 2)* | 1:00 p.m. | Education Building — Classroom C | “Tropical Plants of the Conservatory — Mrs. Peg Hayward |
| 2)* | 4:00 p.m. | D.B.G. House — Dining Room | Planning Committee Meeting |
| 3)* | 9:30 a.m. | Education Building — Preparation Room | “Spice up your Holidays” — Ms. Judith Fine-Sarchielli |
| 3)* | 10:00 a.m. | Education Building — Classroom B | African Violet Society of Denver |
| 3)* | 3:30 p.m. | D.B.G. House — Dining Room | Horticulture Advisory Committee Meeting |
| 3)* | 7:45 p.m. | Education Building — Mitchell Hall | Denver Orchid Society |
| 4)* | 11:00 a.m. | D.B.G. House — Main Room | Civic Garden Club |
| 4)* | 8:00 p.m. | Education Building — Mitchell Hall | Denver New City Opera Company |
| 5) | 9:30 a.m. | Education Building — Classroom B | Gloxinia Gesneriad Growers |
| 5)* | 7:30 p.m. | Education Building — Mitchell Hall | Colorado Wildlife Federation |
| 7)* | 7:00 p.m. | Education Building — Mitchell Hall | Bureau of Land Management — Environmental Impact Study |
| 8)* | 12:00 noon | Education Building — Herbarium | Herbarium Committee Meeting |
| 8)* | 3:30 p.m. | Education Building — Classroom B | Commission on Youth |
| 8)* | 4:00 p.m. | D.B.G. House — Dining Room | Executive Committee Meeting |
| 8) | 7:30 p.m. | Education Building — Classroom A | Colorado Cactus & Succulent Society |
| 9)* | 12:00 noon | D.B.G. House — Dining Room | Public Relations Committee Meeting |
| 10)* | 7:00 p.m. | D.B.G. House — Main Room | Men’s Garden Club of Denver |
| 13)* | 5:00-7:00 | Education Building — Mitchell Hall | “Heralding in the Season” — Tree Viewing and Chorale for D.B.G. Members |
| 14) | 7:00 p.m. | Education Building — Classroom C | Hi Country Bromeliad Society |
| 17)* | 11:30 a.m. | D.B.G. House — Dining Room | Around the Seasons |
| 17)* | 4:00 p.m. | D.B.G. House — Dining Room | Chatfield Committee Meeting |
| 17) | 7:30 p.m. | Education Building — Classroom B | Indoor Light Gardening Society |
| 22)* | 12:00 noon | Education Building — Herbarium | Herbarium Committee Meeting |
| 25) | All Day | Botanic Gardens Closed | MERRY CHRISTMAS!!! |

January 1982

- | | | | |
|-----------------------------------------------------------------------|------------|------------------------------------|--------------------------------------------------------------------------|
| 1) | All Day | Botanic Gardens Closed | HAPPY NEW YEAR!!! |
| 5)* | 1:00 p.m. | D.B.G. House — Dining Room | Editorial Committee Meeting |
| 6)* | 4:00 p.m. | D.B.G. House — Dining Room | Planning Committee Meeting |
| 6)* | 7:30 p.m. | Education Building — Classroom C | “Indoor Light Gardening” — Members of the Indoor Light Gardening Society |
| (This class continues each Wednesday at 7:30 p.m. through January 27) | | | |
| 7)* | 10:00 a.m. | D.B.G. House — Main-Dining Rooms | Central District Presidents Council |
| 7) | 7:45 p.m. | Education Building — Mitchell Hall | Denver Orchid Society |
| 8)* | 11:00 a.m. | D.B.G. House — Main Room | Civic Garden Club |

**Members or Enrollees only.*

DBG Public Relations Committee Seeks New Volunteers

To help the Denver Botanic Gardens better serve its members, as well as the community at large, the Public Relations Committee is seeking new volunteer members to help with its community activities work. The Committee, newly reorganized to emphasize its community involvement role, is advisory to the Board of Trustees and is charged with stimulating public interest in the activities of the Gardens.

DBG has a wide range of events offered both by the staff and by various volunteer groups for the membership and for the community at large. The volunteers on the P. R. Committee work to increase awareness of these programs within the metropolitan area and also to organize additional activities which will bring more people to and support for the Denver Botanic Gardens.

To help us do this, we offer many interesting volunteer jobs to those who would be willing to help us make the Gardens an even more exciting place to visit. We particularly encourage those with regular jobs out in the "real" world to take a little time and join with us to make this place of beauty which is DBG even more alive.

We have a place for you whether you have a lot or just a little time to give. Here is a very brief idea of some of what we have to offer:

Chairperson: coordinates activities of the Committee and its subcommittees.

Information Coordinator: keeps abreast of events scheduled at DBG, gathers and helps disseminate within the Committee information about these events — in short, the person who keeps us on top of what's going on.

Activities Coordinator: a resource link between the Committee and the groups offering activities at DBG, makes available the expertise of the Committee to help with event planning, publicity, etc.

At-Large-Members: advisors to on-going activities, evaluation of current activities, and planning for new ones.

Membership Subcommittee: works to foster growth of DBG membership, develops programs and benefit packages for members.

Special Events Subcommittee: puts on the events (planned by full P. R. Committee and Membership Subcommittee) for both the general public and the members of the Gardens such as: concerts, Holiday Party, Evening Open Gardens Programs, Summer Family Picnic, and other existing and new events designed to stimulate activity at DBG.

Public Relations Subcommittee: assists with public relations coordination at the Gardens to include developing a P. R. plan, publicizing special events, etc. This subcommittee is particularly important in helping to get the public excited about DBG!

In all of this, we augment the work of the Gardens staff. Lots of our work can be done evenings and weekends. We know that many of you reading this have talents and interests which could benefit the Botanic Gardens and its P. R. Committee. Come join us, have some fun, and help the DBG. Please contact Ellen Waterman, the Committee Chairperson at 744-6574 or call Mary Jo at the Gardens (575-2548) so that a Committee representative can get back in touch with you. See you at the Denver Botanic Gardens, growing better and better because you've been willing to lend a hand.

Classes

The fern is a magic plant and if you can believe an old superstition, it blooms at midnight on June 21st (Midsummer's night). A few moments after it blossoms seed will appear and any mortal fortunate enough to gather it, can become invisible.

With these properties, anyone should wish to grow one. Sign up for *Hardy Ferns*, 9 a.m. in Classroom C on December 1st. Students will sow spores to take home. If all goes well by February 2 the young plants may be transplanted under Mr. Callas' guidance and then taken home again for transplanting outside later. The cost of the class is \$10 for members, \$25 for nonmembers, and is limited to 12 students.

Ideas for inexpensive gifts will be offered in *Spice Up Your Holidays*, December 3, 9:30 to 12 noon, in the Preparation Room off the Hall. Please bring a small glass jar with a lid for a sample. The cost is \$7.50 for members, \$22.50 for nonmembers. Limit 15.

Another Worthy Cause

Need an idea for your garden club's social activity? The Denver Symphony has a discount rate for groups (25 or more people). For more information call: Tiena Fiske, Group Sales Coordinator, 292-1580.

How Old is the Oldest Tree?

Consider the oldest living things: bristlecone pines and redwood trees. The living cells in those trees are no more than thirty years old; the great bulk of the tree is made up mostly of dead cells that are not necessary for survival. Since dead cells should not be included in determining age, by this reasoning the trees are no more than thirty years old: considerably younger than the oldest nerve cells in many human beings.

Leonard Mayflick, in "The Cell Biology of Human Aging", Scientific American, January, 1980



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$15.00 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 10th of each month preceding publication. Editor — Margaret Wallace, 575-2548.





Insect Pictures

Fifty-six insect watercolor paintings and pen-and-ink drawings from the University of Colorado Museum will be exhibited on our Herbarium balcony during the month of January. These illustrations by Su Zan Noguchi Swain were drawn for the book *The Insect Guide* written by the late Dr. Ralph B. Swain, biologist at the University of Colorado, and show specimens of the major insect families of North America. In preparation for their viewing, members might enjoy reading *The Private Lives of Insects* by Edwin Way Teale, also illustrated by Su Zan Swain.

The exhibit will be on display from 10 a.m. to 2 p.m. daily in January. If anyone has time to volunteer for a few hours during this period, please call Marilyn Girouard, 355-0783, to see if a mutually convenient time can be arranged.

Another display on insects will be shown at the University of Colorado Museum Gallery itself from December 20 to March 14, 1982, called "A Maze of Insects". This exhibit is based on

the highly technical research of the entomologist, but in its graphic- and three-dimensional-form it will appeal to anyone who enjoys a visual approach to learning. It explores the jungle of insect studies and classification by carefully probing the realm of the fantastic and interesting creatures within the Museum's working entomology collection. The Museum is located in the Henderson Building on the University of Colorado campus, just off Broadway between 15th and 16th Streets. The C. U. Museum at Boulder is open seven days a week, Monday through Friday from 9 a.m. to 5 p.m.; Saturday, 9 a.m. to 4 p.m.; and Sunday 10 a.m. to 4 p.m. Admission is free. For further information call the Museum at 492-6165 weekdays or 492-6892 weekends.

1982 Denver Master Gardener Program

THE TRAINING PROGRAM

CLASSES: Participants will receive 30 hours of college level training, consisting of five lectures featuring 8 guest speakers, to be held at the Denver Botanic Gardens. This year, lectures are scheduled every Wednesday, from 9 a.m. until 3 p.m., with a lunch break, between the weeks, of and including, February 10th and March 10, 1982. Topics will include horticulture, botany, plant pathology, turf pest control, fruit trees, small fruits, and vegetable and flower gardening.

LABORATORIES: While the lecture sessions are running, the Denver Extension horticulture department will hold concurrent one-on-one "question and answer" sessions, also featuring guest speakers and planned programs to supplement the lectures. These laboratory meetings will be informal and will try to relate classroom material to everyday questions that Denver residents are most likely to ask. The five laboratories will be held on Friday morning, 9 a.m. to 11 a.m., following each lecture.

IF YOU'RE INTERESTED . . . To schedule an interview or to receive more information, contact Steve Olson at the Denver Extension office (575-2716). All contacts must be made by Monday, January 11, 1982. Interviews will be held in January, between the 11th and the 22nd. Final selections will be made by February 1st.

Denver Botanic Gardens, Inc.
909 York Street
Denver, Colorado 80206
303-575-2548

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Solange Gignac

Address correction requested